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ABSTRACT

The purpose of this study was to report on the academic achievement of Red Deer College transfer students at three Alberta Universities for 1968-1971. Transfer students were matched with native students from the universities using session year, year of program, degree sought, age, sex, and first year cumulative grade-point average. These matched data were presented descriptively to indicate comparative academic performance of native and transfer students. The data were tested for significance at the .05 level of confidence on a two-tailed test of significance having first been tested for homogeneity of variance. These data were used to test eleven different hypotheses designed to investigate the effect on the academic achievement of the two matched groups on the variables of year of program, age, sex, and degree sought. It was found that Red Deer College transfers achieved academically as well as native students at the University of Calgary, and that this achievement was not affected by the variables inspected. At the University of Alberta it was found that Red Deer College transfer students achieved academically only slightly below the native students. In the third year of a degree program the transfers experienced an academic drop in achievement, especially in the categories of females, students under 25 years of age, and students seeking Bachelors of Education degrees or degrees classified as "other" in the study. (Author)

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ACADEMIC ACHIEVEMENT OF RED DEER COLLEGE STUDENTS AT ALBERTA UNIVERSITIES

by

CHARLES THOMAS BURFORD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

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FACULTY OF GRADUATE STUDIES

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ABSTRACT

The purpose of this study was to report on the academic achievement of Red Deer College transfer students at three Alberta universities for the period 1968 to 1971.

Transfer students were matched with native students from the three Alberta universities using session year, year of program, degree sought, age, sex, and first year cumulative grade point average. These matched data were presented descriptively in order to indicate comparative academic performance of native and transfer students. The data were tested for significance at the .05 level of confidence on a two-tailed test of significance having first been tested for homogeneity of variance. These data were used to test eleven different hypotheses designed to investigate the effect on the academic achievement of the two matched groups on the variables of year of program, age, sex, and degree sought.

It was found that Red Deer College transfers achieved academically as well as native students at The University of Calgary, and that this achievement was not affected by the variables inspected. At the University of Alberta it was found that Red Deer College transfer students achieved academically only slightly below the native students. In the third year of a degree program the transfers were observed to experience an academic drop in achievement, especially in the categories of females, students under 25 years of age, and students seeking either Bachelor of

Education degrees or degrees classified as "other" in the study.

Recommendations for further study were noted.

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CHAPTER I

INTRODUCTION

According to Campbell, the community college is an invention of our times:

> . . . the educational demands of a technically orientated and competitive society have been many and costly. Old educational forms are being scrutinized and their effectiveness challenged. New institutions are being invented in response to new needs. . . .[1]

In Alberta this new society has made its presence felt in a demand for an increase in the quantity, quality and diversity of post-secondary education. From this need, which Stewart saw as one of extended educational opportunities and experiences, has come the need for some institution, excluding schools and universities, which can absorb the increase in numbers seeking university education and at the same time perform a unique role in the development of the community.[2] It is hoped that the community colleges in Alberta can fill the position in this province.

Just as the nature and needs of each province are different, so too has been the growth and nature of community colleges. In Alberta the fore-runner of the public college was the private and the church related college. The first of the public colleges was established by the School Act of 1957 and was situated at Lethbridge. The 1958 Public Junior College Act granted power to establish junior colleges to the province's school board. To set up a college in their district the Boards needed the approval of

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the Alberta Minister of Education and the sanctioning of the application by the University of Alberta. Financing was shared by the School Board and the Alberta Legislature.

As a result of this legislation Public Colleges were set up in Red Deer (1964), Medicine Hat (1965), and Grande Prairie (1966). Mount Royal, which had been a private college since 1910, became public in 1966 having reached an agreement with the newly established University of Calgary. Grant MacEwan Community College (Edmonton) opened in September 197..

The basic programs usually contained first-year transfer programs for university-bound students, vocational-type programs for non-transfer students, high school completion courses, and other specific programs specially designed to meet the needs of students in that particular system.[3]

The Alberta Colleges Act which eliminated the word "Junior" from the "Junior Colleges" established the Alberta Colleges Commission which has assumed the leadership role for the Alberta community-colleges system. The Commission, as a result of this Act, is now responsible for allocation of provincial funds to the colleges.

PURPOSE OF THE STUDY

The purpose of this study is to report on the academic achievement of Red Deer College students at Alberta universities during the university years 1968-1969, 1969-1970, and 1970-1971.

NEED FOR THE STUDY

Community colleges, not only in Alberta but elsewhere, have been set up in answer to the needs of society which has, over the last two decades, increasingly demanded the opportunity for all qualified persons to pursue further education.

Owing to this demand for post-secondary education, coupled with a natural growth in population, universities have been unable to meet the total requirements of the society. Increases in numbers have in some cases meant quota systems and increased entrance requirements. It is towards the alleviation of this problem that transfer programs in community colleges are aimed. Because of the growing nature of this problem and the geographical convenience for otherwise isolated communities, the transfer program has come to play a major role in the make-up of the community college in Alberta. This is not an uncommon occurrence, since the Carnegie Commission on Higher Education reported that about two-thirds of the students in two-year colleges in the United States are enrolled in transfer programs.[4] It is probable that the same situation may be witnessed in Alberta community colleges, as two of the general aims of the public community colleges in Alberta, according to the Colleges Commission, are:

1. To broaden the basis for higher education in Alberta;
2. To ease the problem of access to higher education.[5]

For any program to succeed, to grow and to develop, evaluation is necessary. In the case of a community college transfer

program, evaluation connotates more than just "numbers graduating" for, as the Carnegie Commission suggests, only one-third of community college transfer program graduates do enter university.[6] The problem for the colleges is that the source of the evaluation lies beyond their control within the university receiving the transfers. It is only here that the true value of the transfer program can be assessed.

One of the major functions of a community college in Alberta today is to prepare students for transfer to a senior institution. For this function to be carried out successfully, knowledge of the articulation between the two institutions, of these transfer students, should be obtained. Such knowledge necessitates research of a definitive and on-going nature. Knoell and Medsker reported that a study of the performance of transfer students would increase the understanding of the role of the junior or community college as a transfer institution, saying that "the fact of whether the community college should emphasize the transfer function on a more vocational type program is in itself a current issue."[7] These same authors also pointed out the tendency of growth apparent in American junior and community colleges, especially in the area of transfer program students.[8]

What their chances of success at university will be is of major concern not only to the thousands of prospective community college transfer students, but also to the colleges and universities in Alberta. Both universities and community colleges need an accurate and continuous flow of information on which to base

accreditation, application, curriculum and counselling method changes. This information should be collected by each community college in order to inform transfer students accurately as to success of earlier groups in different universities, and the factors which affected their success. Medsker suggested that "each college should accumulate a body of facts about its own student body which will serve as a guideline for educational policies and procedures."[9]

It has now become the trend in the United States for not only community colleges to conduct follow-up studies of transfer students, but for universities to do the same.

Canada, like the United States, is undergoing great increases in the number of students entering tertiary institutions. This increase is applicable to community colleges as well as to universities. In Alberta the enrollment increases in the Universities of Alberta, Calgary and Lethbridge are dropping while the number of entrants to the province's five community colleges is rising substantially.[10] The reason for this, according to the Minister of Education, "is in part a reflection of the province's effort to expand educational opportunities in the colleges, while at the same time meeting the essential needs of the universities."[11]

The Alberta Colleges Commission Annual Report showed projections for enrollment from 1969-70 to 1974-75 of 3,591 and 15,200 students, respectively. This is an increase of 200 per cent over current enrollment figures.[12] It has been estimated that the number of people seeking enrollment in tertiary

institutions in Alberta will have increased by four times their present number by the year 2000.[13] Such an increase in numbers must create challenges for existing community colleges and universities in Alberta, and with this strain will come a need for efficiency and accountability. Longitudinal studies relating to community college transfer programs would be beneficial in future planning.

This problem in respect to the United States was expressed by Wilson, who said, "within the next decade community colleges in the United States will become the college-level counterpart of the comprehensive secondary schools which arrived with mass education in the 30's."[14] The community college in both the United States and Canada would appear to be the fastest growing segments of education today.

The Provincial Government of Alberta, in its White Paper on Post Secondary Education, called for continued development of the college system, and for this reason the Commission on Educational Planning was set up to report on this in 1972.[15] This Commission will report on all facets of education including tertiary education as it is in Alberta today, and will make recommendations for the future.

Dennison and Jones, following their study of transfer students from various British Collumbia community and junior colleges to the Universities of British Columbia and Simon Fraser, noted that "the quality of a college transfer program holds great importance in the eyes of the public, the student and the

universities."[16]

Campbell supported the need for such a study, especially in regard to Alberta community colleges, when he said, "much more information is needed than presently exists, regarding the flow of students from secondary schools through colleges (and between colleges) and universities."[17]

Interest in this study and its resultant information has been expressed by:

1. Red Deer Community College
2. The Alberta Universities Coordinating Council
3. The Alberta Colleges Commission
4. The Alberta Universities Commission
5. The Universities of Calgary, Alberta, and Lethbridge.

DEFINITION OF TERMS

Public Community College--refers to a non degree-granting institution offering courses which may be credited towards a university degree. It may also offer vocational courses leading to non-university diplomas. In Alberta these institutions are administered under the Colleges Act of 1969 and their activities are coordinated by the Alberta Colleges Commission.

Junior College--refers to a college usually giving instruction for one or two years' credit toward a first baccalaureate degree.

Transfer Student--refers to a student who has taken a community college transfer program and has been admitted with credit into a university baccalaureate program.

Native Student--refers to a student who starts the first year of tertiary education at the Universities of Alberta, Calgary or Lethbridge and whose continued, uninterrupted study at this same institution falls into the period under study.

Transfer Program--refers to any college program which can be accredited towards a university baccalaureate degree.

Academic Success--refers to a student's cumulative grade-point average achieved at the end of second and third years of programs.

Tertiary Education--refers to education undertaken after high school, including both degree-granting and non degree-granting institutions.

Year of Study (or Program)--refers to the stated position of a student in his degree program, as determined by the registrar's office of a particular university.

Drop-out--refers to a student who terminates his work at a university for any reason other than receipt of a degree.

Affiliated College--refers to junior or community colleges which are independent in jurisdiction but rely on a certain university for approval of its transfer program.

FOOTNOTES TO CHAPTER I

[1]Gordon Campbell, Community Colleges in Canada (Toronto: McGraw-Hill Company of Canada Ltd., 1971), p. 3.

[2]Andrew Stewart, Special Study of Junior Colleges (Edmonton: Department of Education, 1965), p. 11.

[3]Alberta Colleges Commission, The Alberta College System: First Annual Report--1969-70 (Edmonton: Alberta Colleges Commission, 1971), p. 14.

[4]Carnegie Commission on Higher Education, Policies for Community Colleges (New York: McGraw-Hill, 1970), pp. 18-19.

[5]The Alberta Colleges Commission, op. cit., p. 23.

[6]Carnegie Commission on Higher Education, op. cit.

[7]Dorothy M. Knoell and Leland L. Medsker, From Junior to Senior College (Berkeley: Centre for the Study of Higher Education, 1965), p. 24.

[8]Ibid.

[9]Leland L. Medsker, The Junior College: Progress and Prospects (New York: McGraw-Hill Book Company Ltd., 1960), p. 50.

[10]Canadian University and College, VI, No. 1 (Jan./Feb. 1971), 5.

[11]Ibid.

[12]Alberta Colleges Commission, op. cit., p. 26.

[13]Donald Seastone, "Education in Alberta: Population Enrollment and Provincial Revenue Consideration." Paper presented at Congress on the Future of Education. (Edmonton: Human Resources Research Council, December, 1970), pp. 7-8.

[14]Gayle C. Wilson, "The Impact of Transfer Admissions in the Next Decade," College and University, American Association of Collegiate Registrars and Admissions Officers, Ohio University, XLV, No. 3 (Spring, 1970), 267.

[15]Association of Universities and Colleges of Canada, Universities and Colleges of Canada (Ottawa: Association of Universities and Colleges of Canada, 1971), p. 16.

[16]John D. Dennison and Gordon Jones, The Community College Transfer Students at the University of British Columbia--A Three Year Study (Published by Vancouver City College, March, 1970), pp. 1-65.

[17]Campbell, op. cit., p. 76.

CHAPTER II

REVIEW OF RESEARCH AND LITERATURE

INTRODUCTION

This chapter is organized into two sections, the first being a chronological review of research on junior college transfer achievement studies, and the second, an attempt to summarize the findings of research with special attention to areas of importance to the design of this study.

CHRONOLOGICAL REVIEW

The Early Studies

One of the first studies on junior college transfer students was commenced in 1923 at Stanford University by Mitchell and Eells. This study traced the success of junior college transfers to Stanford as compared with a like-sized (317) sample of native students for the years 1923-27. Their findings indicated that the college transfers achieved better results than native students, with the exception of the first quarter of study. They also found that a greater percentage of transfers (43%) entered graduate school than natives (28%).[1]

In 1927, Proctor conducted a study at Stanford, comparing 489 male and 89 female native students to 465 male and 179 female junior college transfers. Having found that the transfers gained

lower averages in their first year but recovered in their second year of study, Proctor concluded that junior colleges were successfully preparing students for advanced university work.[2]

In 1930, at the University of Southern California, Watt and Touton conducted a study comparing the results of 128 junior college graduates, 106 junior college non-graduates, and 100 native students. The authors found that the natives achieved slightly better results than the transferred junior college graduates, who, in turn, achieved better results than the non-graduate transfers. They concluded that the junior college was successful in preparing their transfer students.[3]

In the same year as the Watt and Touton study, Allen, at Baylor University, investigated the success of 330 transfer graduates from 20 junior colleges, compared with 330 randomly selected native students. He concluded from his findings that no difference existed between the two groups.[4]

Hale, in his 1932 study of 71 degree-granting institutions, found the over-all grade point average of former junior college students to be lower than that of native students. He also found that junior college transfers performed satisfactorily during their first semester of study and steadily improved.[5]

Engineering students, both native (2,039) and junior college transfer (25), were compared at the University of Michigan in a 1932 study by Congdon. He found the transfers to have a lower grade point average and a lower percentage of degree and honor attainment than the native students.[6]

Grossman, in 1934, compared junior college transfers, with students who transferred from four-year institutions, to five different schools of the University of Illinois. The author concluded that the graduates from junior colleges were able to transfer successfully, although success, less equal to or greater than that achieved by the other transfer students, depended on which school of the university was entered. This same variation occurred when results of percentages gaining degrees, being placed on probationary status and "dropping out," were compared.[7]

In 1936, Gerberich and Kerr reported on a study they had conducted at the University of Arkansas from 1928-32, on 215 junior college transfers and 435 native students. They reported a consistent drop in achievement by the junior college transfers in their first semester of study at the four-year institution.[8]

Growing Interest in the Forties and Fifties

A study at the University of Texas by Fichenbaum in 1941, in which the achievement of 900 junior college transfer students was compared with a corresponding sample of native students, found that the native students performed consistently better than the transfer students.[9]

Eells, in a follow up study to the one he conducted in 1923, looked at the achievement of 2,080 junior college transfers from 67 junior colleges, who transferred to 319 senior colleges and universities, in 1943. The author found that, over-all, the transfer students improved their grade point average, achieved at

junior college, after transfer to a four-year institution.[10]

In 1943, Siemens investigated the success of junior college transfer students who entered the Faculty of Engineering at the University of California, at Berkeley. In comparison to the achievement of native engineering students, the author found junior college transfer students excelled in some courses in engineering and when inspected over-all were slightly superior.[11]

A comparison of junior college transfer students, native students and transfers from other four-year institutions was conducted at Stanford University in 1944 by Florence McIntosh. It was concluded from her findings that the native students achieved slightly better than the other two groups.[12]

Sexson and Harbeson, in reviewing studies conducted prior to 1946, concluded that the over-all trend appeared to indicate that there was little academic difference between the transfer and native students in university study.[13]

As a result of a questionnaire sent to 108 registrars of senior colleges and universities located in the eastern United States, Sammartino and Burke found, in 1946, that 37 per cent of junior college transfers achieved "above average," with 16 per cent achieving "below average" results.[14]

Between 1937 and 1946, Ruth Maguire inspected the comparative success of junior college transfers with native students at Syracuse University, and with their junior college final grade point average. She found that the junior college transfers experienced a grade point average drop of between 0.45 and 0.50

in their first year at Syracuse University. Over 77 per cent of these students received lower grades after one year of university study than they did at their respective junior colleges.[15]

In 1949 and 1951, Rodes conducted studies of junior college transfers into the Engineering Faculty of the University of California. He found in the first study that when compared with native engineering students the junior college transfers progressed just as well in all phases of the engineering course.[16] His second study concluded that junior college transfers in higher studies achieved on the average 0.50 below their junior college grade point average.[17]

Martorana and Williams compared 241 junior college transfers to Washington State College with native students, in 1954. They equated the students on major subject area, high school attended, and year in college; following this, they matched the two groups on aptitude-test scores and high school averages. They found that the native students achieved a .275 higher grade point average than transfer students. They concluded, however, that following this initial period of adjustment, the difference in averages of the transfers and native groups became negligible. They also found no significant difference between the academic success of the various controlled groups.[18]

D'Amico and Prahl reported, in 1959, on a study they conducted with 3,187 graduates from Flint Junior College during the years 1953-1956. They found that women were more successful than men in transferring to senior colleges.[19]

A result indicating no significant difference was reported by Masiko in his 1957 study of the comparison between 83 randomly selected graduates from junior colleges and a similar group of native university students, following their study at a four-year institution. He also reported that the over-all drop from a 2.75 grade point average attained at junior college to a 2.73 grade point average attained at university was not significant.[20]

Buck, reporting in 1957 on the findings of various university test services, found that the percentage of transfers who were performing satisfactorily upon transfer to senior institutions was declining.[21]

Significant Developments in the Sixties

The first nation-wide study of junior college transfers to universities in the United States was reported by Medsker in 1960. The study set out to collect information from various widely distributed universities which had histories of enrolling large groups of junior college transfers. The design for the study was formulated at the Centre for Study of Higher Education, University of California, Berkeley, in 1953. The objective of this major study was to compare the junior college transfers to native students, on scholarly performance (as expressed by a median grade point average), persistence, and on-time graduation. Some institutions were also able to supply information regarding retention, performance and graduation by faculty. In all but one of the studies, no matching, on any dimension, of native and transfer

students was attempted.

Information was received from most of the senior institutions in the United States, namely, California, Georgia, Illinois, Iowa, Kansas, Michigan, Mississippi and Texas, for the years 1953-1956. The dates indicated one characteristic that seemed certain to appear in such studies, this being the variance in results from one senior institution to another. This same variance seemed to occur between the junior colleges. Despite this limitation, in an attempt to generalize the findings, the author reported the following:

1. Junior college transfer students did somewhat less well than the native students in the first term, after transfer. In most institutions the "transfer shock" had been overcome by the end of senior year and transfers achieved results as well as, and in some cases better than, the universities' native students. If differentials existed they tended to be 0.3 grade points or less.

2. Retention rate of junior college transfers was lower than that for university native students.

3. The percentage of "on-time" completion of degrees was much lower in the transfer student's case.

The author reported that matching of the two groups on previous academic achievements would yield more precise data and more accurate comparison. The size of the study, in this case, did not lend itself to such matching. It was reported that when such matching did occur no significant difference was apparent.[22]

In 1961, Klitzke conducted research using the academic records of transfers into teacher training, at the Colorado State

College. In this study he selected two hundred and thirty-one junior college transfer students and matched these with native students on year of study, sex, and major area of study. He concluded from his findings that a larger percentage of native students (90.04%) eventually graduated than did junior college transfer students (78.35%).[23]

Holme conducted a study at Syracuse University in 1961, which was concerned with the comparison of 385 junior college transfers with a similar sample of native students. The over-all grade point average achieved by the junior college transfers (1.60) was lower than that achieved by native students. The percentage of transfers (61%) who received their degrees was found not to differ significantly from the figure for native students.[24]

In 1963, Willingham compared the college grades of junior college transfers with their first year results at Georgia Tech; the results indicated a loss of grades after transfer. It was also indicated that 40 per cent of the transfers dropped out after the first year and of the remainder only 50 per cent graduated. The author also found that the success rate after transfer varied between different junior colleges.[25]

Reporting in 1964, Lambe studied a group of transfers from junior colleges in Michigan, after their transfer to Western Michigan State University. He found the familiar drop in junior college transfers' first-semester grades to be evident. This drop was followed by a gradual and increasing recovery until the time of graduation. Success was found to vary with the university school

entered after transfer, most difficulty being experienced in business, applied arts, and science, and least in education.[26]

In 1967, Grover reported on a study he conducted at the University of Wyoming in 1967, in which he compared 100 junior college transfers with a like number of native students, matching them on Ohio Psychological Examination results, University of Wyoming predicted grade point average, sex and text scores. The transfers dropped from 2.75 at junior college to 2.34 after transfer to the senior institution: this initial university grade point average increased to 2.39 and 2.47 in the second and third semesters, respectively. The graduating grade point average for the transfers was 2.47 as compared with a 2.59 point average for the native students. Thirty per cent of the transfers dropped out before the end of the third semester.[27]

One of the first studies of junior college transfers to universities in Alberta was carried out by Anderson in 1962 and reported in 1964. In this study the academic achievements of graduates from Mount Royal Junior College in Calgary were inspected upon completion of their first year of study at a university. The transfers studied included fifteen transferring to the University of Alberta at Calgary: 60 per cent of this group successfully completed their first year at the university.[28]

In 1965, Bernbaurm looked at the records of junior college transfers into the City College of the City University of New York. The author found that:

1. Junior college transfer students took longer to

graduate.

2. Transfers, as a group, were as successful as the native students, if success is defined as graduation or continued attendance after three years with an academic average of "C" or better.

3. The transfers were as successful as native students in every area of study, with the exception of engineering.[29]

One of the two major studies carried out in 1965, on the problem of the junior college transfer to university, was that of Knoell and Medsker. Their study included 10,000 transfers from 345 two-year institutions.[30] They found that 62 per cent of the transfer students gained their degrees within the three years required. Of the remaining 58 per cent, 9 per cent were still enrolled at the beginning of the fourth year: indications were that 75 per cent of these would eventually graduate with a baccalaureate degree. In the area of persistence and on-time completion of degree, the students with good standing prior to transfer fared better than those with poor standing.

Most of the transfers were found to experience some drop in their grades following transfer, particularly in the first term or semester. The records of the drop-outs and the graduates showed the latter to have better grades at both junior college and university. While both experienced some drop in grades immediately following transfer to university, the latter group showed steady improvement of grades and the former did not.

When inspected on subject area the transfers were found to have the same probability of success in all of the broad major

fields. This experience was, however, found to differ between the various four-year institutions. Attrition in the engineering field was found to be no greater than in other major areas: they did, however, tend to take longer to complete the programs. More than half entered an applied field such as business administration, engineering, and teacher education, and about two-thirds of the women and one-quarter of the men planned to teach after receiving their degrees.

In the area of comparison with native students, the year 1962 was chosen as a typical sample. All transfer and native students receiving their degrees that year, regardless of registration date, were compared. The authors found that both groups took the same number of terms to complete their programs at the university, including junior years. Junior college transfers were found to be one year older than their native counterparts, on the average. On the matter of grades Knoell and Medesker found:

> At many universities the native student group also earned higher grade point averages in the upper division than their classmates who were transfer students. Although the junior college grades of the transfer students were higher than the freshman and sophomore grades of the natives, the junior college students experienced a drop in grades after transfer, which placed them at a disadvantage in the upper division.[31]

Another major study of transfer students was also reported in 1965, by Hills. This study took the form of research into previously conducted studies from 1928-1964. Hills dealt with (1) the phenomenon of "transfer shock," (2) recovery, (3) basic comparative success of junior college transfers and native students, (4) comparison of junior college transfers' success with the success

of transfers from other institutions, and (5) comparative evidence of completion of degree with consideration for time taken.

In the area of "transfer shock," the author covered 46 sets of data: of these, 44 revealed that junior college transfer students do experience an initial drop in grades from junior college final grade point average to first term or semester results at university. Two studies revealed that this "shock" did not occur. Thirty-eight studies were reported regarding recovery of transfer students from "transfer shock"; 34 studies indicated that the junior college transfer does recover in subsequent semesters and terms, while four indicated they do not recover.

Thirty-three sets of data were surveyed with respect to comparison of the academic success of junior college transfers and native students; 22 indicated that the natives performed better, and 7 indicated that both groups performed equally well. Six sets of data compared junior college transfers' academic performance with that of transfers from other institutions; 5 found that the latter were more successful and one the reciprocal.

Twenty-one sets of data were examined with respect to on-time completion of degrees as a percentage comparison between junior college transfers and native university students: 19 found the natives to graduate sooner and in greater proportions and 2 showed the transfers to graduate sooner and in greater proportions.[32] In summary, Hills found

> that transfer students should expect to suffer an appreciable drop in grades in the first semester after transfer, that their

> grades tend to improve in direct relation to their length of schooling and that native students as a group perform better than do transfer students.[33]

In 1966, Brown reported on the articulation of graduates from Lethbridge Junior College in Alberta who transferred into the Faculty of Education at The University of Calgary, for the years 1962-1965. The transfers were matched with native students on age, sex, second year average, course marks, years of courses for the second year, and Grade 12 matriculation results. The author found no evidence of either any difference in the academic success of both groups, or of the presence of "transfer shock," and its resultant drop in grades.[34]

In 1967, Roueche reported on his survey of twenty-four studies received at the Educational Resources Information Centre, clearinghouse for Junior College Information. All these studies were concerned with the success achieved by junior college transfer students. The findings resemble closely those found in earlier reviews. They are:

1. Junior college transfers to university experience a lower grade point average during their first term following transfer to the senior institution than they experienced in their last year at junior college.

2. In the majority of cases the transfer students recover from the loss of grade point average experienced in their first term or semester at university.

3. Transfers' grade point averages improve with each successive semester in which they are enrolled at the senior institution.

4. Junior college transfer students' marks are lower than the average grades by students who entered senior institutions as freshmen natives.

5. The transfer student is less likely than the native student to graduate.

6. The transfer student who does graduate takes longer than does the comparable native student.[35]

In summary Roueche concluded: " . . . these findings tend to correlate conclusions drawn recently by Medsker and Knoell and to reinforce data reported in research, dating to 1928."[36]

In 1968 a study was conducted of the academic performance of transfers from the College of San Mateo to California University (1966-1967), and to the State colleges (1967-1968). The study considered the performance of 1,610 students, two of whom were ineligible for university at the time of entry to the College of San Mateo. The author considered the achievement of the junior college transfers to be satisfactory, and reported no difference between junior college grades and first term or semester university grades.[37]

Research was carried out at the Appalachian State University in 1967 and reported in 1968. In this study 82 graduates from the university, who had previously transferred from various junior colleges, were compared with 82 graduates who had spent their entire university career at the senior institution. The native students were chosen by means of random sampling.[38] The results indicated that implications, due to varying size and nature of the colleges, were difficult to make. On the average, however, transfer

students accumulated slightly lower quality point-ratings for their last two years of work than did native Appalachian students.[39]

Again in 1968, Farley reported on a study he conducted at the University of Missouri, in which an attempt was made to check the validity of the junior college grade point average as a prediction of success for Missouri junior college transfer students at that university. The findings indicated that both junior college grades and high school rank were good predictors of university success, and that there was no significant difference in the use of both as predictors.[40]

Hartman matched junior college transfer students with native students on the following variables: (1) size of high school graduating class, (2) high school rank, (3) sex, (4) age at college entrance, and (5) the college entered at the university. In reporting his findings in 1968, he noted:

1. The private college transfer student had a significantly more difficult time earning grades than did his matched native counterpart.

2. The students from rural junior colleges had no problem in adjusting to the course work.

3. The transfer students from metropolitan junior colleges made the adjustment after the first term.[41]

In 1969 Andrews attempted to evaluate the success of junior college transfers in their first semester at the University of Missouri. On the average he reported finding a 0.75 drop in grade point averages for the first university semester when compared with

the final semester grade point average at junior college.

In the same year, Walker carried out a comparative study of native and transfer students at the University of Florida. His findings indicated that:

1. Native students had a higher grade point average than junior college transfer students in the first term of upper division study.

2. The grade point average of every transfer group was lower in the first term in the upper division than its lower division average.

3. The grade point average of every major group transfer, as well as native, rose over the period of upper division work.

4. The cumulative upper-division grade point average of transfer students was lower than their lower-division grade point average.

5. The cumulative upper-division grade point average of transfer students was lower than the cumulative upper-division grade point average of native students.

6. A larger percentage of native students than transfer students made grade point averages of 2.00 or better, and 3.00 or better.

7. A larger percentage of native students had graduated after the set period of time than had transfer students.

Walker also pointed to the fact that the native students had scored much higher on the twelfth grade test and may have been potentially better students in the first place. It was also

reported that for prediction of upper division success, junior division results were more reliable than high school grades.[42]

A 1965 study of Bronx Community College graduates who went as juniors to City College of New York, and to Hunter (Bronx), was reported in 1969. These students were compared with 60 native juniors at the same institution. The findings indicated that, at City College of New York, the rate of graduation success was slightly in favour of the native students, but no difference was evident at Hunter.[43]

In 1969, Gold analyzed the academic success of junior college transfers to the University of California. In this study, the author did not compare native and transfer students, but reported only percentage distribution of results, numbers graduating, and transfer student drop-outs.[44]

Current Studies

Frankel reported in 1970 on a study conducted at Lehman College of the City University of New York. In this study the results of junior college transfer students were studied for the years 1960-1968. The author found the following:

1. There appears to be a direct relationship between length of time in community college and "success" in senior university.

2. In general, community college transfers register a decline in academic achievement after entering a senior college.

3. Native students do significantly better, academically, than matched transfers, in the last two years at Lehman College.[45]

In 1970, Grieve set up a study which, it was hoped, would form the basis for a continued annual study to supply information of both current and accumulative profiles of junior college transfers and their academic success. This study was concerned with transfers to the State Universities after graduation from Cuyahoga Community College, Ohio. In his first inspection of the community college transfers, he found 93 per cent to have good standing at their respective universities.[46]

In 1970, Falkenberg reported on his study in which he investigated the success of transfer students from the Public Junior Colleges of Alberta, to the University of Alberta, Edmonton, and The University of Calgary, in the fall of 1965. The method of ascertaining success was by use of grade point averages achieved in first and second year of study at the universities. The transfers were compared with a sample of native students selected using a table of random identification numbers. The author found that for this group of students:

1. There was a significant difference at the .01 level of confidence between the means of the college grade point averages of men and women prior to transferring to The University of Calgary. This same variable was found significant at the .05 level of confidence for the means of the grade point averages of the same two groups in their first year of study, and over-all record, at The University of Calgary. No significant difference was found between transfer and native students on the variables of sex and year of study at the University of Alberta, Edmonton.

2. A comparison of the means of the over-all grade point average of junior college transfers and native students found a significant difference at the .01 level of confidence for both universities. At Alberta the over-all grade point average of natives and transfers was 5.88 and 5.74,[47] respectively, on a nine point scale, while at Calgary it was 2.50 and 2.36,[48] respectively, on a four point scale.

3. A comparison of the means between first-year university grade point averages of junior college transfers and second-year grade point averages of native students was found to be significantly different at the .01 level of confidence at both universities. The grade point averages of the transfers and natives at Calgary were 2.36 and 2.46,[49] respectively, on a four point scale, while at Alberta they were 5.65 and 5.86,[50] respectively, on a nine point scale.[51]

Among the conclusions arrived at by Falkenberg were the following:

1. Junior college transfers, in general, do not quite equal native students in academic achievement.

2. The grade point averages of transfers dropped in the first year after entering university but increased during their second year of attendance.

3. Women students, native and transfer, achieved higher grade point averages than males.[52]

Also prominent in the same area was a study reported by Dennison and Jones in Vancouver, British Columbia. This was a long

range study of subsequent performance and degree attainment of students who transferred from Vancouver City College to the University of British Columbia, from 1966-1969.[53] The authors found that the city college students compared favourably, after one year of transfer, with native students. This was the case in all areas except at the "first class" status level where only 1.1 per cent of the transfer students appeared, compared with 6.5 per cent of the native students. It was also reported that a clear relationship was evident between length of time spent in junior college and success at university; that is, those students who transfer after two years were found to perform significantly better than those transferring after one year.

In the area of faculty characteristics, one-third of the students were found to enter the faculty of education and one-third entered the faculty of arts.

The over-all failure rate of transfer students for 1968 was 6.6 per cent, an interesting figure as this was about half of the 1967 failure rate (12.4%) and was better than the over-all failure rate of the native students in 1968 (7.3%). The failure rate of junior college students had, in fact, been dropping steadily from 1966.

Another finding of interest in this study concerned the discovery of a close correlation between college grade point average and university grade point average. Using a multiple regression analysis, with the 176 subjects who had attended Vancouver high schools and for whom high school grade point average was calculated

and Otis "Beta" I.Q. available, the authors found, by inspection, that college grade point average correlates most highly with university average, high school results to a less extent, and Otis "Beta" I.Q. the least of the three measures.

When dealing with the characteristic of age, Dennison and Jones found evidence that entering ages of students were tending to increase. During the period 1966-1968 the percentage of transfer students under 25 years of age had fallen from 86.8 per cent to 75.2 per cent.[54] The authors found: "Evidence to suggest that the mature student (over 25) not only has a higher average achievement after transfer, but a lower rate of attrition and a higher rate of on time graduation."[55] This study tended to support a similar study which the same authors conducted with junior college transfers to Simon Fraser University, British Columbia.[56]

SUMMARY

At first inspection the studies reviewed revealed inconsistency in their findings and conclusions. Variations in methods of analysis, designs and basic differences between the colleges, universities, students and geography may account for the different results. These results tend to indicate that junior college transfers could be expected to do academically better, as well as, or worse than the native university student. There does, however, appear to be evidence of a certain tendency in the study reported, suggesting that the native university student can be expected to perform slightly better than the junior college transfer student, especially

in the higher range of grade distribution, but that this tendency is becoming less discernible among the more recent studies.

According to variables of age, sex and faculty, investigation of the students' success, as compared to that of matched groups of native students, would suggest that a difference may occur in the achievement rates of (a) mature (over 25) transfer students and younger transfer students, (b) male and female junior college transfers, and (c) transfers into the faculty of engineering, as compared with transfers in other faculties.

It would appear that while high school average has been successfully used to predict success at university after transfer, a more accurate predictor of academic achievement in the senior years at university may be the junior college final grade point average of transfers, and junior university year for native students. The review also appears to suggest that matching of the two groups concerned on the variable of previous academic success produces more accurate data and comparisons. Such matching tends to produce results indicating no significant difference between the two groups.

Due to the variation between different community colleges, as well as the variations in the different senior institutions, it would appear valuable for junior colleges to collect and maintain profiles of their own transfer students to the different senior institutions. Information regarding comparative success of transfers, their drop-out rates, completion of on-time degrees,

and variances between faculty achievements should have great benefit for the community college.

FOOTNOTES TO CHAPTER II

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CHAPTER III

DESIGN OF THE STUDY

INTRODUCTION

The purpose of this chapter is to set out the specific questions this study attempted to answer, to report the hypotheses tested, to record the limitations and delimitations which controlled the study, and to describe the methods used to collect and inspect the data.

SPECIFIC PROBLEMS

The over-all problem to which this study was directed was the formulating of a profile of the academic success of Red Deer College transfer students who were admitted into the second year of studies at Alberta universities and to compare this success with that of native students at these institutions.

The review of research supplied much of the direction taken in this study, first, in the method of inspection and collection of data and, second, in the variables inspected.

Both native and transfer groups were examined using cumulative grade point average as an indication of academic success. The comparative success of the students was inspected with attention to the following variables:

1. Year of university program, namely, second or third year.

2. Age: (a) Under 25 years of age

(b) 25 and over 25 years of age

3. Sex: (a) Male

(b) Female

4. Degree Sought: (a) Bachelor of Arts

(b) Bachelor of Commerce

(c) Bachelor of Education

(d) "Other" Bachelor Degrees

(e) Bachelor of Science

(f) Bachelor of Science in Engineering

These variables were decided upon after review of research in this area, upon consideration of the needs of the interested bodies involved in this study, and the availability of data.

The study concerned itself with students entering second year of study at The University of Calgary, the University of Alberta, or The University of Lethbridge for the session years commencing in the falls of 1968, 1969 and 1970. The students had successfully completed year one of their degree program in the year immediately prior at either Red Deer College or the respective Alberta university.

HYPOTHESES

The following hypotheses were tested in relation to both the University of Alberta and The University of Calgary.

H_o1--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students in either their (a) second or (b) third year of study.

H_o2--There is no significant difference in academic performance judged by the group mean grade point average between transfer and native students under the age of twenty-five years at the time of entry into the second year of studies in either their (a) second or (b) third year of study.

H_o3--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students aged twenty-five years or more at the time of entry into the second year of studies, in either their (a) second or (b) third year of study.

H_o4--There is no significant difference in academic performance judged by group mean grade point average between male transfer students and male native students, in either their (a) second or (b) third year of study.

H_o5--There is no significant difference in academic performance judged by group mean grade point average between female transfer and female native students, in either their (a) second or (b) third year of study.

H_o6--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students seeking the Bachelor of Arts degree in either their (a) second or (b) third year of study.

H_o7--There is no significant difference in academic performance judged by the group mean grade point average between transfer and native students seeking the Bachelor of Education degree in either their (a) second or (b) third year of study.

H_o8--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students seeking the Bachelor of Science degree in either their (a) second or (b) third year of study.

H_o9--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students seeking the Bachelor of Science in Engineering degree in either their (a) second or (b) third year of study.

H_o10--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students seeking the Bachelor of Commerce degree, either in their (a) second or (b) third year of study.

H_o11--There is no significant difference in academic performance judged by group mean grade point average between transfer and native students seeking degrees classified as "Other" than those named above, in either (a) second or (b) third year of study.

DELIMITATIONS

This study was confined to:

1. The academic success of Red Deer College transfer students, as compared to that of native students at the University of Alberta, The University of Calgary, and The University of Lethbridge only.

2. The academic success expressed by cumulative grade point average intervals only.

3. Red Deer College transfer students who had been credited with a full year of study as defined by the Registrars of the three senior institutions concerned.

4. The academic success of transfer and native students during university session years commencing in the fall of 1968 and 1969 at the University of Alberta, in the fall of 1969 and 1970 at The University of Calgary, and in the fall of 1968, 1969 and 1970 at The University of Lethbridge.

5. The academic success of transfer and native students on a group basis rather than individually so as to protect the confidentiality of student records.

6. Only areas of study at university which lead to the granting of a baccalaureate degree.

7. Lower division study as sole determinator of university academic success.

LIMITATIONS

This study was limited by:

1. The accuracy and the completeness of the data available from Red Deer College and the universities concerned.

2. The accuracy of the computer analysis.

3. The accuracy of the statistical methods employed.

4. The ability of the researcher to interpret and report the results of the data analysis.

5. The effect of other dimensions such as socioeconomic considerations in assessing academic success at university.

6. The decision to equate grades received in first-year studies at Red Deer College with first-year grades at the three Alberta universities for the purposes of matching.

7. The accuracy of calculating the academic ability of students using first-year cumulative grade point averages as a basis.

PROCEDURES

Transfer Population

The Red Deer College transfer students selected for this study were those who received full accreditation for first-year university study at an Alberta university. Due to limitations of the availability of computerized data at the universities the study was restricted to transfer students transferring from the Red Deer College in the period 1968-1970. The years of university study

examined were also restricted, by the availability of data, to students entering 1968-1969 and 1969-1970 session years at the University of Alberta and session years 1969-1970 and 1970-1971 at The University of Calgary. Only students meeting these criteria were considered in this study.

Matching

To compare the academic success of the two groups of students it was decided to match a transfer student with a native student. Hills indicated one of the greatest and most frequently occurring faults of college transfer studies was the lack of consideration shown by researchers for the differences in academic potential which may exist between the two groups.[1] The matching procedure decided upon was designed to avoid this shortcoming.

The decision to use the cumulative grade point average achieved in first year of study either at an Alberta university or Red Deer College was arrived at upon consideration of the findings of Farley,[2] Walker,[3] and Dennison and Jones.[4] All of the above reported finding lower division grade point average to be a stronger predictor of upper division academic success than high school grades.[5] With lower division grade point average acting as a control on variances in academic ability, further matching criteria were added.

Having received computer tapes of all student records from the Registrars of the involved universities, the facilities of The University of Calgary Computer Centre were utilized to obtain

printed data pertaining to both native and transfer students. These data were divided into categories according to:

1. Year of study.
2. Sex.
3. Cumulative grade point average for first year of studies.
4. Degree sought.
5. Date of birth.

Native students were grouped according to the first four categories shown above with the cumulative grade point average for that year set out for each student in ascending order, with the corresponding student's date of birth shown alongside.

To obtain a match, a native student with the most acceptable first year cumulative grade point average and closest date of birth to the transfer under consideration was chosen. On the four point scale used at The University of Calgary variance of $\pm$.1 in cumulative grade point averages between the paired students was allowed while on the nine point scale used at the University of Alberta a variance of $\pm$.2 was allowed. These variances were allowed so as to maximize the number of matched pairs available for examination while still ensuring comparative academic standing of both native and transfer students.

Using the above procedures it was possible to match all but two students at both the University of Alberta and The University of Calgary. These four students were rejected due to the unavailability of a satisfactory native match.

To facilitate the visual presentation of data the matched pairs were placed in five cumulative grade point average intervals. For the four point system of The University of Calgary these intervals were: 0.00 to 1.99; 2.00 to 2.49; 2.50 to 2.99; 3.00 to 3.49; 3.50 to 4.00. At the University of Alberta the corresponding intervals were: 0.00 to 4.99; 5.00 to 5.99; 6.00 to 6.99; 7.00 to 7.99; 8.00 to 9.00. These intervals were selected as best indicating a continuum of achievement from low achievement to high achievement. The first interval was selected as an indicator of academic achievement below a level generally accepted as unsatisfactory by both Red Deer College and the universities involved. The fifth interval was selected as generally indicating outstanding academic achievement. The intervals two, three and four were selected as indicating academic performance generally accepted as below average, average, and above average, respectively.

The above intervals were used to present an academic achievement profile of both transfer students and their matched native students according to the following categories:

1. All students by year of university program.
2. Students aged Under 25 years at entry into the 2nd Year of program.
3. Students aged 25 Years and Over 25 Years of age at entry into the 2nd Year of program.
4. Female students.
5. Male students.
6. Students seeking a Bachelor of Arts Degree.

7. Students seeking a Bachelor of Education Degree.
8. Students seeking a Bachelor of Science Degree.
9. Students seeking a Bachelor of Science in Engineering Degree.
10. Students seeking a Bachelor of Commerce Degree.
11. Students seeking a Degree "Other" than those already mentioned.

The method of converting the nine point scale used at Red Deer College to the four point scale of The University of Calgary was that put forward by Falkenberg,[6] the formula being:

4 Point grade = (9 Point grade - 1) + 2

Statistical Procedures

To facilitate the treatment of the data all relevant information concerning each individual student was recorded on I.B.M. cards. The computer at The University of Calgary was used in this analysis.

The statistical procedure recommended by Moroney was used to determine the significant difference between the academic success of the two groups.[7] First, F-tests were applied to each category to test the samples for homogeneity of variance. Ferguson pointed out that such a procedure is essential if F-tests are to be used, as such tests assume that the two samples under inspection do not have significantly different variances.[8]

When the F ratio resulting from the variances indicated a value less than the critical value shown on the tables developed by

Snedecor,[9] the samples were accepted as homogeneous. If accepted as homogeneous the samples then had t-tests applied to inspect the significance of the difference between the transfer and native cumulative grade point average group means. The .05 level of confidence on a two-tailed test of significance was set as the significant level.

In the event that the F-test indicated the samples were significantly non-homogeneous the method developed by Cochran and Cox was used for the testing of independent groups with unequal variances.[10] Having incorporated the adjustments suggested the t-test was applied as in the case of the homogeneous samples.

Due to the smallness of some sample groups it was decided to set the minimum number of degrees of freedom at 12. Samples not meeting this criterion were not tested for significance.

The null hypothesis was accepted if the value of t was found to be not significant according to the table developed by Fisher and Yates.[11] If it was found to be significant the hypothesis was rejected.

FOOTNOTES TO CHAPTER III

[1]John R. Hills, "The Evaluation of Transfer Applications," College and University, XL, No. 3 (Spring, 1965), 24.

[2]Farley, op. cit., p. 8.

[3]Walker, op. cit., p. 4.

[4]Dennison and Jones, op. cit., p. 30.

[5]Ibid.

[6]Falkenberg, op. cit., p. 37.

[7]M. J. Moroney, Facts from Figures (Harmondsworth: Penguin Books Ltd., 1969), pp. 226-32.

[8]George A. Ferguson, Statistical Analysis in Psychology and Education (McGraw-Hill Book Company, 1966), pp. 181-83.

[9]Ibid., pp. 408-11.

[10]Ibid., p. 171.

[11]Ibid., p. 406.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

INTRODUCTION

The purpose of this chapter will be to (1) describe the data used in this study and (2) to report the results of the analysis of the data. The presentation will be in three sections.

The first section includes the characteristics of Red Deer College students who have transferred and have received credit for first-year study of a degree program at the University of Alberta, The University of Calgary, or The University of Lethbridge. This presentation will show number and percentage of transfers appearing in the various categories inspected in this study. Because of the small number of transfer students involved at The University of Lethbridge, the data for this university will be presented in the first section only.

The second section includes the number of transfer and native students involved in the study after the matching procedure had been carried out. The number shown in the different categories of this section will indicate the size of the samples used in the statistical analysis.

The third section contains the comparative data organized into the eleven categories inspected in this study. Each category contains descriptive analyses of the academic achievement of transfer and native students, and shows numbers of matched students

entering the session year, program year and university under inspection, as well as numbers and percentages of transfer and native students, improving, maintaining or decreasing in academic achievement as judged by first-year cumulative grade point average intervals. These categories will also contain the number and percentage of students discontinuing studies and the results of the statistical analyses involved in the investigation of the eleven hypotheses.

For convenience the cumulative grade point average intervals will be referred to in the following manner for the University of Alberta and The University of Calgary:

	University of Alberta	The University of Calgary
Group 1	0.00-4.99	0.00-1.99
Group 2	5.00-5.99	2.00-2.49
Group 3	6.00-6.99	2.50-2.99
Group 4	7.00-7.99	3.00-3.49
Group 5	8.00-9.00	3.50-4.00

Data for samples of transfer and native students less than 12 will be discussed descriptively in the body of the chapter. However these data will not be presented in table form.

TRANSFER DATA

University of Alberta

As observed in Table 1, 117 transfers from Red Deer College entered the second year of a degree program at the University of

Table 1

Characteristics of Red Deer College Transfer Students at the University of Alberta in Session Years 1968-1969 and 1969-1970

Session Year	1968-1969		1969-1970			
Year of Program	2nd Year		3rd Year		2nd Year	
	Number	%	Number	%	Number	%
Overall	117	100	96	100	97	100
Age						
Under 25	108	93	90	94	92	95
25 and over	9	7	6	6	5	5
Total	117	100	96	100	97	100
Sex						
Males	55	47	47	49	41	42
Females	62	53	49	51	56	58
Total	117	100	96	100	97	100
Degree Sought						
B.A.	15	13	13	14	15	16
B.Ed.	44	38	42	44	25	26
B.Sc.	33	28	20	21	32	34
B.Sc.(Eng.)	6	5	5	5	11	11
B.Comm.	5	4	4	4	3	3
B."Other"	14	12	12	12	11	10
Total	117	100	96	100	97	100
Discontinued studies	21	17	35	36	16	17

Alberta in session year 1968-1969. This group contains 108 (93%) students under 25 years of age and nine (7%) 25 years of age or over. This group was made up of 55 (47%) females and 62 (53%) males. In the category of degree sought, 44 (38%) sought the Bachelor of Education degree, 33 (28%) sought the Bachelor of Science degree, and 15 (13%) sought the Bachelor of Arts degree. Twenty-one (17%) students discontinued studies during the year.

From the group of 117, 96 transfer students entered the third year of a degree program in session year 1969-1970. This group contained 90 (94%) students under 25 years of age and six students 25 years of age or over. This group was made up of 47 (49%) males and 49 (51%) females.

By category of degree sought 42 (44%) sought Bachelor of Education degrees, 20 (21%) sought Bachelor of Science degrees, and 13 (14%) sought Bachelor of Arts degrees. For this group, 35 (36%) students discontinued studies.

Table 1 shows that in session year 1969-1970, 97 students entered the second year of a degree program. In the category of age 92 (95%) were under 25 years of age and five were 25 years of age or over. In the category of sex 41 (42%) were males and 56 (58%) were females.

By category of degree sought 32 (34%) sought Bachelor of Science degrees, 25 (26%) sought Bachelor of Education degrees while 15 (16%) sought Bachelor of Arts degrees. Sixteen (17%) students discontinued studies.

The University of Calgary

As observed in Table 2, 33 students from Red Deer College entered the second year of a degree program in session year 1969-1970 at The University of Calgary. This group contained 31 (94%) students under 25 years of age and two students 25 years of age and over. By the category of sex this group contained 17 (52%) males and 16 (48%) females. By the category of degree sought there were 17 (52%) seeking Bachelor of Education degrees, while 6 sought Bachelor of Science degrees. One student discontinued studies.

As observed in Table 2 the loss of one student from the total number of this group caused only slight changes in the categories of males under 25 years of age and Bachelor of Education degrees in the group entering third year of a degree program in session year 1969-1970 at The University of Calgary.

As shown in Table 2, 31 students entered second year of a degree program at The University of Calgary in session year 1970-1971. By the category of age there were 29 (94%) under 25 years of age and two 25 years of age or over. This group contained 21 (68%) males and 10 (32%) females. By the category of degree sought there were 12 (39%) seeking the Bachelor of Education degree, 6 seeking the Bachelor of Science degree and 5 seeking Bachelor of Arts degrees. Three students discontinued studies.

The University of Lethbridge

As observed in Table 3, two transfer students from Red Deer College entered second year of a degree program in session year

Table 2

Characteristics of Red Deer College Transfer Students at The University of Calgary in Session Years 1969-1970 and 1970-1971

Session Year	1969-1970		1970-1971			
Year of Program	2nd Year		3rd Year		2nd Year	
	Number	%	Number	%	Number	%
Overall	33	100	32	100	31	100
Age						
Under 25	31	94	30	94	29	94
25 and over	2	6	2	6	2	6
Total	33	100	32	100	31	100
Sex						
Males	17	52	16	50	21	68
Females	16	48	16	50	10	32
Total	33	100	32	100	31	100
Degree Sought						
B.A.	3	9	3	9	5	16
B.Ed.	17	52	16	51	12	39
B.Sc.	6	18	6	19	6	19
B.Sc.(Eng.)	1	3	1	3	3	10
B.Comm.	4	12	4	12	4	13
B."Other"	2	6	2	6	1	3
Total	33	100	32	100	31	100
Discontinued studies	1	3	5	16	3	10

Table 3

Characteristics of Red Deer College Transfer Students
at The University of Lethbridge in Session Years
1968-1969, 1969-1970, 1970-1971

Session Year	1968-1969		1969-1970				1970-1971			
Year of Program	2		2		3		2		3	
	Number	%	Number	%	Number	%	Number	%	Number	%
Overall	2	100	6	-	1	100	1	100	5	100
Age										
Under 25	2	100	6	100	1	100	-	-	5	100
25 and over	-	-	-	-	-	-	1	100	-	-
Total	2	100	6	100	1	100	1	100	5	100
Sex										
Male	-	-	1	17	-	-	1	100	1	20
Female	2	100	5	83	1	100	-	-	4	80
Total	2	100	6	100	1	100	1	100	5	100
Degree Sought										
B.A.	1	50	4	67	-	-	1	100	3	60
B.Ed.	1	50	2	33	1	100	-	-	2	40
Total	2	100	6	100	1	100	1	100	5	100
Discontinued studies	1	50	1	17	-	-	-	-	-	-

1968-1969 at The University of Lethbridge. Both students were females under 25 years of age. One sought the Bachelor of Arts degree and discontinued studies that year, while the other sought a Bachelor of Education degree. This student entered and completed third year of a degree program at The University of Lethbridge in session year 1969-1970.

In session year 1969-1970, six Red Deer College transfer students entered the second year of a degree program at The University of Lethbridge. All were under 25 years of age. Five students were male and one was female. Four sought the Bachelor of Education degree and two sought the Bachelor of Arts degree. One of the female students seeking the Bachelor of Arts degree discontinued studies during the session year. All five of the group who completed the session year of study at The University of Lethbridge entered and completed the third year of studies in session year 1970-1971 at this institution.

In session year 1970-1971 one Red Deer College transfer student entered and completed the second year of a degree program at The University of Lethbridge. This student was male, over twenty-five years of age, and sought the Bachelor of Arts degree.

Because of the small samples, no further analysis of The University of Lethbridge students will be reported in this study.

MATCHED DATA

The data contained in this section were later utilized for the statistical testing of the various hypotheses.

University of Alberta

Table 4 contains the matched data for the University of Alberta. This table shows that for session year 1968-1969 one transfer student entering second year of a degree program could not be matched. This student was male, over 25 years of age, seeking a Bachelor of Science degree. He discontinued studies during the session year.

Of the 111 matched native and 96 matched transfer students who completed second year of the degree program in 1968, 103 natives and 90 transfers were under 25 years of age; eight natives and six transfers were 25 years of age or over. Fifty-three natives and 47 transfers were females, 58 natives and 49 transfers were males; 15 natives and 13 transfers sought the Bachelor of Arts degree, 41 natives and 42 transfers sought Bachelor of Education degrees, 31 natives and 20 transfers sought the Bachelor of Science degree, six natives and five transfers sought Bachelor of Science in Engineering degrees, and 13 natives and 12 transfers sought degrees classified as "other" in this study. Five matched native and 20 matched transfer students did not complete this year of study.

From the above group 80 native and 61 transfer students completed their third year of a degree program in 1969-1970. The group contained 75 natives and 58 transfers under 25 years of age, five natives and three transfers 25 years of age or over, 39 natives and 33 transfers who were males, 41 natives and 28 transfers who were females, nine natives and 10 transfers seeking Bachelor of Arts degrees, 24 natives and 20 transfers seeking Bachelor of

Table 4

Numbers of Red Deer College Transfer and Native Student Matches by Category, Year of Program and Session Year Completed at the University of Alberta

Year Completed	Year of Program	Student Origin	Overall Total	Age		Sex		Degree Sought						Withdrawals
				-25	25 & +	Male	Fem	B.A.	B. Ed.	B. Sc.	B.Sc. Eng.	B. Comm.	B. Other	
1968-1969	2	Native	111	103	8	58	53	15	41	31	6	5	13	5
		Transfer	96*	90	6*	49*	47	13	42	20*	5	4	12	20*
1969-1970	3	Native	80	75	5	39	41	9	24	25	5	4	13	31
		Transfer	61	58	3	33	28	10	20	15	3	3	10	35
1969-1970	2	Native	74	70	4	50	24	12	11	29	11	1	10	22
		Transfer	80*	75*	5	49	31*	14	16	26	11	3	9*	16

*One transfer could not be matched in this category.

Education degrees, 25 natives and 15 transfers seeking Bachelor of Science degrees, three transfers and five natives seeking Bachelor of Science in Engineering degrees, four natives and three transfers seeking Bachelor of Commerce degrees, and 13 natives and 10 transfers seeking degrees classified as "other" in this study. Thirty-one matched native students and 35 matched transfer students did not complete this year of study.

As also observed in Table 4, in the session year 1969-1970, one transfer student entering second year of a degree program could not be matched. The student was female, under 25 years of age, and sought a degree in the category of "other" Bachelor degrees.

The 74 matched native and 80 matched transfer students who completed second year of a degree program in session year 1969-1970 contained 70 natives and 75 transfers under 25 years of age, four natives and five transfers 25 years of age and over, 50 natives and 49 transfers who were males, 24 natives and 31 transfers who were females, 11 natives and 16 transfers seeking the Bachelor of Education degree, 29 natives and 26 transfers seeking Bachelor of Science degrees, 11 natives and 11 transfers seeking Bachelor of Science in Engineering degrees, and one native and three transfers seeking Bachelor of Commerce degrees, and 10 natives and nine transfers seeking Bachelor degrees classified as "other" in this study. Twenty-two matched native students and 16 matched transfer students did not complete this year of study.

The University of Calgary

Table 5 contains the matched data for The University of Calgary. This table shows that, for session year 1969-1970, two transfer students entering second year of a degree program could not be matched. Both were female under 25 years of age, and one sought the Bachelor of Education degree and discontinued studies in that year. The other sought a degree in the category of "other" Bachelor degrees.

As no students discontinued studies in session year 1969-1970 the number of matched native and transfer students completing this year in the different categories was in all cases equal. Of the 31 matched pairs who completed the second year of a degree program in 1969-1970, 30 were under 25 years of age, one was 25 years of age and over, 15 were male, 16 were female, three sought Bachelor of Arts degrees, 16 sought Bachelor of Education degrees, six sought a Bachelor of Science degree, one sought a Bachelor of Science in Engineering degree, four sought Bachelor of Commerce degrees, and one sought a degree classified as "other" in this study.

Five matched transfer students from the above group did not complete the third year of a degree program in 1970-1971, while all 31 of the matched native students did. The loss of the five matched transfer students reduced the category numbers for this year to 26 over-all, 26 under 25 years of age, no 25 years of age and over students, 14 males, 12 females, 12 seeking the Bachelor of Education degree and one seeking degrees classified as "other" in this study.

Table 5

Numbers of Red Deer College Transfer and Native Student Matches by Category, Year of Program and Session Year Completed at The University of Calgary

Year Completed	Year of Program	Student Origin	Overall Total	Age		Sex		Degree Sought						Withdrawals
				-25	25 & +	Male	Fem	B.A.	B. Ed.	B. Sc.	B.Sc. Eng.	B. Comm.	B. Other	
1969-1970	2	Native	31	30	1	15	16	3	16	6	1	4	1	-
		Transfer	31**	30*	1*	15	16**	3	16*	6	1	4	1*	-*
1970-1971	3	Native	31	30	1	15	16	3	16	6	1	4	1	-
		Transfer	26	26	-	14	12	3	12	6	1	4	1	5
1970-1971	2	Native	31	29	2	21	10	5	12	6	3	4	1	-
		Transfer	28	26	2	18	10	4	12	6	2	3	1	3

*One transfer could not be matched in this category.
**Two transfers could not be matched in this category.

As also observed in Table 5, 31 matched native students and 28 matched transfer students completed second year of a degree program in 1970-1971. This group contained 29 natives and 26 transfers under 25 years of age, two natives and two transfers 25 years of age and over, 21 natives and 18 transfers who were males, 10 natives and 10 transfers who were females, five natives and four transfers seeking the Bachelor of Arts degree, 12 natives and 12 transfers seeking the Bachelor of Education degree, six natives and six transfers seeking the Bachelor of Science degree, three natives and two transfers seeking the Bachelor of Science in Engineering degree, four natives and three transfers seeking the Bachelor of Commerce degree, and one native and one transfer seeking a degree classified as "other" in this study. Three matched transfer students did not complete this year of study.

COMPARATIVE ACADEMIC ACHIEVEMENT DATA

1. Over-all Achievement

(a) University of Alberta

Tables 6 and 7 contain the data which describe the comparative academic achievement of Red Deer College transfer students and their native student matches at the University of Alberta.

As noted in Table 6 for the groups entering the second year of a degree program in session year 1968-1969, the number of matched pairs in each cumulative grade point average interval was 34 in Group 1, 46 in Group 2, 25 in Group 3, seven in Group 4, and four in Group 5.

Table 6

Academic Achievement of Red Deer College Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	34	34	12	14	10	13	6	4					6	3
5.00-5.99	46	46	7	9	14	19	11	11	2	5			12	2
6.00-6.99	25	25	1		7	6	12	12	4	7			1	
7.00-7.99	7	7	1				3	4	2	3			1	
8.00-9.00	4	4					1		2	1	1	3		
Total	116	116	21	23	31	38	33	31	10	16	1	3	20	5
3rd Year--1969-1970														
0.00-4.99	28	31	4	4	8	8	6	5	1	2			9	12
5.00-5.99	34	44	3	5	8	11	7	13	1	3			15	12
6.00.6.99	24	25	2		7	4	6	8	2	9			7	4
7.00-7.99	6	7	1		1		1	1	1	1		2	2	3
8.00-9.00	4	4							2	1		3	2	
Total	96	111	10	9	24	23	20	27	7	16	0	5	35	31

Table 7

Academic Achievement of Red Deer College Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	22	22	14	6	1	9	3	2					4	5
5.00-5.99	33	33	6	5	15	14	4	4		1			8	9
6.00-6.99	27	27	1	1	8	3	12	12	2	5			4	6
7.00-7.99	8	8				1	5	2	3	3				2
8.00-9.00	6	6					1	1	3	4	2	1		
Total	96	96	21	12	24	27	25	21	8	13	2	1	16	22

Of the total 33 (29%) transfer and 40 (35%) native students improved, 41 (35%) transfer and 51 (44%) native students maintained, and 22 (19%) transfer and 21 (17%) native students decreased in academic achievement. Twenty (17%) transfer and five (4%) native students discontinued studies.

As observed in Table 6 for the groups entering the third year of a degree program in session year 1969-1970, the number of matched students in each cumulative grade point average interval was 28 transfers and 31 natives in Group 1, 34 transfers and 44 natives in Group 2, 24 transfers and 25 natives in Group 3, six transfers and seven natives in Group 4, and four transfers and four natives in Group 5.

As a group, 25 (26%) transfer and 42 (38%) native students improved, 19 (20%) transfer and 27 (24%) native students maintained, and 17 (18%) transfer and 11 (10%) native students decreased in academic achievement.

Table 7 shows that for the groups entering the second year of a degree program in session year 1969-1970 at the University of Alberta the number of matched pairs appearing in each cumulative grade point average interval was 22 in Group 1, 33 in Group 2, 27 in Group 3, eight in Group 4, and six in Group 5.

In the total group 10 (10%) transfer and 21 (22%) native students improved, 46 (48% transfer and 36 (37%) native students maintained, while 24 (25%) transfer and 17 (18%) native students decreased in academic achievement. Sixteen (17%) transfer and 22 (23%) native students discontinued studies.

(b) The University of Calgary

Tables 8 and 9 contain the data which describe the comparative academic achievement of Red Deer College transfer students and their native student matches at The University of Calgary.

In Table 8 for the groups entering second year of a degree program in session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was three in Group 1, 18 in Group 2, eight in Group 3, and two in Group 5. Inspected as a group 12 (34%) transfer and 13 (42%) native students improved, 12 (39%) transfer and 12 (39%) native students maintained, while seven transfer and six native students decreased in academic achievement. No students discontinued studies.

As observed in Table 8, due to the absence of students discontinuing second year studies in 1969-1970, the number of matched pairs entering the third year of a degree program in 1970-1971 was exactly the same as indicated above.

Observed as a group, 14 (45%) transfer and 17 (55%) native students improved, 10 (32%) transfer and 10 (32%) native students maintained, while two transfer and four native students decreased in academic achievement. Five transfer and no native students discontinued studies.

As shown in Table 9, for the groups entering the second year of a degree program in session year 1970-1971, the number of matched pairs in each cumulative grade point average interval was 11 in Group 1, 10 in Group 2, seven in Group 3, and three in Group 4. Seen as a group, 14 (45%) transfer and 17 (55%) native students

Table 8

Academic Achievement of Red Deer College Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1969-1970														
0.00-1.99	3	3	2	3	1									
2.00-2.49	18	18	3	4	7	4	6	9	2	1				
2.50-2.99	8	8		2	3		2	3	2	3	1			
3.00-3.49	2	2							1	2	1			
3.50-4.00														
Total	31	31	5	9	11	4	8	12	5	6	2	0	0	0
3rd Year--1970-1971														
0.00-1.99	3	3	1	2	1			1					1	
2.00-2.49	18	18		3	8	3	5	6	3	6			2	
2.50-2.99	8	8	1	1	1		1	3	2	3	1	1	2	
3.00-3.49	2	2								2	2			
3.50-4.00														
Total	31	31	2	6	10	3	6	10	5	11	3	1	5	0

Table 9

Academic Achievement of Red Deer College Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-1.99	11	11	8	3	2	8	1							
2.00-2.49	10	10	1	2	3	7	3		1			1	2	
2.50-2.99	7	7			3	1	2	4	1	1		1	1	
3.00-3.49	3	3						2	3	1				
3.50-4.00														
Total	31	31	9	5	8	16	6	6	5	2		2	3	

improved, 10 (32%) transfer and 10 (32%) native students maintained, while two transfer and four native students decreased in academic achievement. Three transfer and no native students discontinued studies.

(c) Hypothesis One

Table 10 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students and their native students matched at the University of Alberta. This table shows the 96 transfers and 111 natives who completed second year of a degree program in 1968-1969 produced an "F" value of 1.214. The group mean of the transfers was 5.67 and for the native students it was 5.85. These data produced a "t" value of 1.22 with 205 degrees of freedom.

The data for the 61 transfers and 80 natives who completed third year of a degree program in 1969-1970 produced an "F" value of 1.857. The group mean of the transfers was 5.82 and for the native students it was 6.11. These data produced a "t" value of 1.604 with 139 degrees of freedom.

The data for the 80 transfer and 74 native students who completed second year of a degree program in 1969-1970 produced an "F" value of 1.049. The group mean of the transfers was 5.69 and for the native students it was 5.92. These data produced a "t" value of 1.227 with 152 degrees of freedom.

Table 10 also contains the results of the statistical analysis of the cumulative grade point average of Red Deer College

Table 10

Hypothesis 1

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.214	Yes	5.67	5.85	205	1.22	No
	1969-70	3rd	1.857	No	5.82	6.11	139	1.604	No
	1969-70	2nd	1.049	Yes	5.69	5.92	152	1.227	No
The University of Calgary	1969-70	2nd	1.190	Yes	2.41	2.40	60	0.049	No
	1970-71	3rd	1.539	Yes	2.58	2.57	55	0.049	No
	1970-71	2nd	1.046	Yes	2.19	2.33	57	0.748	No

transfer students and their native student matches at The University of Calgary. As seen in this table the 31 transfers and 31 natives who completed the second year of a degree program in 1969-1970 produced an "F" value of 1.190. The group mean of the transfers was 2.41 and for the native students it was 2.40. These data produced a "t" value of 0.049 with 60 degrees of freedom.

The data for the 26 transfers and 31 natives who completed the third year of a degree program in 1971 produced an "F" value of 1.539. The group mean of the transfers was 2.58 and for the native students it was 2.57. These data produced a "t" value of 0.049 with 55 degrees of freedom.

The data for the 28 transfers and 31 natives who completed second year of a degree program in 1970-1971 produced an "F" value of 1.046. The group mean of the transfers was 2.19 and for the native students it was 2.33. These data produced a "t" value of 0.748 with 57 degrees of freedom.

2. Under 25 Years of Age

(a) University of Alberta

Tables 11 and 12 contain the data which describe the comparative academic achievement of Red Deer College transfer students under 25 years of age and their native student matches at the University of Alberta.

In Table 11 it was noted that for the groups entering the third year of a degree program in session year 1969-1970, the number of matched students in each cumulative grade point average interval

Table 11

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Under 25 Years of Age at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	34	34	12	14	10	13	6	4					6	3
5.00-5.99	44	44	7	8	13	18	11	11	2	5			11	2
6.00-6.99	23	23	1		7	6	12	12	3	6				
7.00-7.99	4	4	0				2	3	1	1			1	
8.00-9.00	3	3					1		1	1	1	2		
Total	108	108	20	22	30	37	32	29	7	13	1	2	18	5
3rd Year--1969-1970														
0.00-4.99	28	31	4	4	8	8	6	5	1	2			9	12
5.00-5.99	33	42	3	4	8	11	6	13	1	3			15	11
6.00-6.99	23	23	2		7	4	6	7	2	8			6	4
7.00-7.99	3	4	1				1	1				2	1	1
8.00-9.00	3	3							2	1		2	1	
Total	90	103	10	8	23	23	19	26	6	14		4	32	28

Table 12

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Under 25 Years of Age at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	22	22	14	6	1	9	3	2					4	5
5.00-5.99	33	33	6	5	15	14	4	4		1			8	9
6.00-6.99	24	24	1	1	8	2	9	11	2	4			4	6
7.00-7.99	7	7				1	4	2	3	3				1
8.00-9.00	5	5					1	1	3	3	1	1		
Total	91	91	21	12	24	26	21	20	8	11	1	1	16	21

was 34 in Group 1, 44 in Group 2, 23 in Group 3, four in Group 4, and three in Group 5. Inspected as a group 32 (30%) transfer and 39 (36%) native students improved, 39 (36%) transfer and 46 (43%) native students maintained and 19 (18%) transfer and 18 (17%) native students decreased in academic achievement. Eighteen (16%) transfer and five native students discontinued studies.

Table 11 indicated for the groups entering the third year of a degree program in session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was 28 transfers and 31 natives in Group 1, 33 transfers and 42 natives in Group 2, 23 transfers and 23 natives in Group 3, three transfers and four natives in Group 4, and three transfers and three natives in Group 5. Treated as a group 24 (27%) transfer and 41 (40% native students improved, 18 (20%) transfer and 24 (23%) native students maintained and 16 (18%) transfer and 10 (10%) native students decreased in academic achievement. Thirty-two (35%) transfer and 28 (27%) native students discontinued studies.

As observed in Table 12 for the groups entering the second year of a degree program in session year 1969-1970, the number of matched pairs in each cumulative grade point average interval was 22 in Group 1, 33 in Group 2, 24 in Group 3, seven in Group 4, and five in Group 5. Seen as a group 10 (11%) transfer and 20 (22%) native students improved, 42 (46%) transfer and 35 (38%) native students maintained, and 23 (25%) transfer and 15 (17%) native students decreased in academic achievement. Sixteen (18%) transfers and 21 (23%) natives discontinued studies.

(b) The University of Calgary

Tables 13 and 14 contain the data which describe the comparative academic achievement of Red Deer College transfer students under 25 years of age and their native student matches at The University of Calgary.

Table 13 shows that for the groups entering second year of a degree program in 1969-1970 the number of matched pairs in each cumulative grade point average interval was three in Group 1, 18 in Group 2, seven in Group 3, and two in Group 4. Inspected as a group, 12 (40%) transfer and 11 (37%) native students maintained and six transfer and six native students decreased in academic achievement. This table also shows that, due to the absence of students discontinuing second year studies in 1969-1970, the number of matched pairs entering the third year of a degree program in 1970-1971 was exactly the same as indicated for the second year group.

Observed as a group 14 (47%) transfer and 17 (57%) native students improved, 10 (33%) transfer and nine native students maintained and two transfer and four native students decreased in academic achievement. Four transfer students discontinued studies.

In Table 14 it can be seen that for the groups entering second year of a degree program in 1970-1971 the number of matched pairs in each cumulative grade point average interval was 11 in Group 1, 10 in Group 2, six in Group 3, and two in Group 4. When inspected as a group eight transfer and 17 (59%) native students improved, 14 (48%) transfer and 10 (34%) native students maintained and two transfer and two native students decreased in academic

Table 13

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Under 25 Years of Age at The University of Calgary in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1969-1970														
0.00-1.99	3	3	2	3	1									
2.00-2.49	18	18	3	4	7	4	6	9	2	1				
2.50-2.99	7	7		2	2		2	2	2	3	1			
3.00-3.49	2	2							1	2	1			
3.50-4.00														
Total	30	30	5	9	10	4	8	11	5	6	2	0	0	0
3rd Year--1970-1971														
0.00-1.99	3	3	1	2	1			1					1	
2.00-2.49	18	18		3	8	3	5	6	3	6			2	
2.50-2.99	7	7	1	1	1		1	2	2	3	1	1	1	
3.00-3.49	2	2								2	2			
3.50-4.00														
Total	30	30	2	6	10	3	6	9	5	11	3	1	4	0

Table 14

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Under 25 Years of Age at The University of Calgary in 2nd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-1.99	11	11	8	3	2	8	1							
2.00-2.49	10	10	1	2	3	7	3							
2.50-2.99	6	6			3		1	4	1			1	2	
3.00-3.49	2	2						1	1	1		1	1	
3.50-4.00									2	1				
Total	29	29	9	5	8	15	5	5	4	2	0	2	3	0

achievement.

(c) Hypothesis Two

Table 15 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students under 25 years of age and their native student matches at the University of Alberta. This table shows that the 90 transfers and 103 natives who completed second year of a degree program in 1968-1969 produced an "F" value of 1.214. The group mean of the transfers was 5.61 and for the native students it was 5.79. These data produced a "t" value of 1.22 with 191 degrees of freedom.

The data for the 75 transfer and 70 native students who completed third year of a degree program in 1969-1970 produced an "F" value of 1.304. The group mean of the transfers was 5.79 and for the native students it was 6.13. These data produced a "t" value of 1.991 with 131 degrees of freedom (sig. $p < .05$).

The data for the 58 transfers and 76 native students who completed the second year of a degree program in 1969-1970 produced an "F" value of 1.131. The group mean of the transfers was 5.64 and for the native students it was 5.87. These data produced a "t" value of 1.47 with 143 degrees of freedom.

Table 15 also contains the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students under 25 years of age and their native student matches at The University of Calgary. This table indicates that the 30 transfer and 30 native students who completed second year of

Table 15

Hypothesis 2

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.214	Yes	5.61	5.79	191	1.220	No
	1969-70	3rd	1.304	Yes	5.79	6.13	131	1.991	Yes
	1969-70	2nd	1.131	Yes	5.64	5.87	143	1.470	No
The University of Calgary	1969-70	2nd	1.373	Yes	2.42	2.43	58	0.039	No
	1970-71	3rd	1.590	Yes	2.58	2.56	54	0.105	No
	1970-71	2nd	1.040	Yes	2.12	2.32	53	0.991	No

a degree program in 1969-1970 produced an "F" value of 1.373. The group mean of the transfers was 2.42 and for the native students it was 2.43. The data produced an "F" value of 0.039 with 58 degrees of freedom.

The data for the 26 transfers and 29 natives who completed third year of a degree program in 1970-1971 produced an "F" value of 1.59. The group mean of the transfers was 2.58 and for the native students it was 2.56. These data produced a "t" value of 0.105 with 54 degrees of freedom.

The data for the 26 transfers and 30 natives who completed the second year of a degree program in 1970-1971 produced an "F" value of 1.04. The group mean of the transfers was 2.12 and for the native students it was 2.32. These data produced a "t" value of 0.991 with 53 degrees of freedom.

3. 25 Years of Age and Over

(a) University of Alberta

Table 16 shows data which describe the comparative academic achievement of Red Deer College transfer students 25 years and over and their native student matches at the University of Alberta. This table indicates that for the groups entering second year of a degree program in session year 1968-1969 the number of matched pairs in each cumulative grade point average interval was two in Group 2, two in Group 3, three in Group 4, and one in Group 5.

Seen as a group one transfer and one native student improved, two transfer and five native students maintained, and three transfer

Table 16

Academic Achievement of Red Deer College Transfer Students and Matched Native Students 25 Years and Over at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.90		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99														
5.00-5.99	2	2		1	1	1							1	
6.00-6.99	2	2						1	1	1			1	
7.00-7.99	3	3	1				1	1	1	2				
8.00-9.00	1	1							1			1		
Total	8	8	1	1	1	1	1	2	3	3		1	2	
3rd Year--1969-1970														
0.00-4.99														
5.00-5.99	1	2		1		1	1							
6.00-6.99	1	2						1		1			1	
7.00-7.99	3	3			1				1	1			1	2
8.00-9.00	1	1										1	1	
Total	6	8		1	1	1	1	1	1	2		1	3	2

and two native students decreased in academic achievement. Two transfer students discontinued studies.

For the groups entering third year of a degree program in session year 1969-1970 Table 16 shows that the number of matched students in each cumulative grade point average interval was one transfer and two natives in Group 2, one transfer and two natives in Group 3, three transfers and three natives in Group 4, and one transfer and one native in Group 5. When observed as a group one transfer and one native student improved, one transfer and three native students maintained, and one transfer and one native student decreased in academic achievement. Three transfer and two native students discontinued their studies.

Five matched pairs of transfer and native students 25 years of age and over entered second year of a degree program in 1969-1970 at the University of Alberta. The number appearing in each cumulative grade point average interval was three in Group 3 and one each in Groups 4 and 5. Observed as a group one transfer and no native students improved, one transfer and four native students maintained, and two transfer and one native students decreased in academic achievement. One transfer student discontinued studies.

(b) <u>The University of Calgary</u>

Data describing the category of 25 years of age and over at The University of Calgary contained only one matched pair who entered the second year of a degree program in session year 1969-1970. Both the transfer and native students maintained their academic achievement.

In session year 1970-1971 the same two students entered third year of a degree program: the native student maintained academic achievement and the transfer student discontinued studies. For the groups entering second year of a degree program in 1970-1971 there were two matched pairs. All four students maintained academic achievement.

(c) Hypothesis Three

Table 17 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students 25 years of age or over and native student matches at the University of Alberta who completed second year of a degree program in 1969. This table indicates that the data for the six transfer and eight native students produced an "F" value of 1.055. The group mean of the transfers was 6.53 and for the native students it was 6.55. These data produced a "t" value of 0.04 with 12 degrees of freedom.

The numbers completing studies for the remaining two groups inspected at the University of Alberta and for all three groups at The University of Calgary were insufficient to allow statistical treatment.

4. Males

(a) University of Alberta

Tables 18 and 19 contain the data which describe the comparative academic achievement of male Red Deer College transfer students and their native student matches at the University of Alberta.

Table 17

Hypothesis 3

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.055	Yes	6.53	6.55	12	0.040	No
	*1969-70	3rd	-						
	*1969-70	2nd	-						
The University of Calgary	*1969-70	2nd	-						
	*1970-71	3rd	-						
	*1970-71	2nd	-						

*Sample number insufficient for statistical treatment in these years.

Table 18

Academic Achievement of Red Deer College Male Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	22	22	10	12	6	7	2	1						
5.00-5.99	22	22	3	7	8	9	4	3		2			4	2
6.00-6.99	12	12			6	3	4	6	2	3			7	1
7.00-7.99	4	4	1				2	3		1			1	
8.00-9.00	1	1							1			1		
Total	61	61	14	19	20	19	12	13	3	6		1	12	3
3rd Year--1969-1970														
0.00-4.99	18	20	2	4	6	6	2	1						
5.00-5.99	15	21	2	5	3	6	5	3	1	2			8	9
6.00-6.99	12	12	2		3	1	3	5		3			4	5
7.00-7.99	3	3	1		1			1	1	1			4	3
8.00-9.00	1	1							1			1		1
Total	49	57	7	9	13	13	10	10	3	6		1	16	18

Table 19

Academic Achievement of Red Deer College Male Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	14	14	10	5	0	6	2	1					2	2
5.00-5.99	18	18	5	4	7	8	3	2		1			3	3
6.00-6.99	14	14	1	1	4	2	6	8	1	3			2	
7.00-7.99	5	5					3	2	2	2				1
8.00-9.00	5	5					1	1	2	3	2	1		
Total	56	56	16	10	11	16	15	14	5	9	2	1	7	6

Table 18 reveals that for the groups entering the second year of a degree program in session year 1968-1969 the number of matched pairs in each cumulative grade point average interval was 2[illegible] in Group 1, 22 in Group 2, 12 in Group 3, four in Group 4 and one in Group 5. Inspected as a group 14 (23%) transfer and 16 (26%) native students improved, 22 (36%) transfer and 29 (48%) native students maintained, and 13 (21%) transfer and 13 (21%) native students decreased in academic achievement. Twelve (20%) transfer and three native students discontinued studies.

Table 18 also contains the data for the groups entering the third year of a degree program in the session year 1969-1970. The number of matched students in each cumulative grade point average interval was 18 transfer and 20 native students in Group 1, 15 transfer and 21 native students in Group 2, 12 transfer and 12 native students in Group 3, three transfer and three native students in Group 4, and one transfer and one native student in Group 5. When observed as a group 14 (29%) transfer and 15 (26%) native students increased, nine transfer and 17 (30%) native students maintained and 10 (20%) transfer and seven native students decreased in academic achievement. Sixteen (33%) transfer and 18 (32%) native students discontinued studies.

Table 19 displays the data for the group entering the second year of a degree program in session year 1969-1970. The number of matched pairs in each cumulative grade point average interval was 14 in Group 1, 18 in Group 2, 14 in Group 3, five in Group 4 and five in Group 5. As a group six transfer and 13 (23%) native students improved, 27 (48%) transfer and 24 (43%) native

students maintained and 16 (29%) transfer and 13 (23%) native students decreased in academic achievement. Seven transfer and six native students discontinued studies.

(b) The University of Calgary

Table 20 contains the data which describe the comparative academic achievements of matched male Red Deer College transfer students and their native student matches at The University of Calgary. It shows that for the groups entering the second year of a degree program in session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was one in Group 1, 10 in Group 2, and four in Group 3. When seen as a group six transfer and six native students improved, six transfer and six native students maintained, and three transfer and three native students decreased in academic achievement. No students discontinued studies.

Table 20 shows for the group entering third year of a degree program in session year 1970-1971 the number of matched students in each cumulative grade point average interval was exactly the same as for this group entering the second year of a degree program in 1969-1970. When observed as a group four transfer and seven native students improved and eight transfer and five native students maintained and two transfer and three native students decreased in academic achievement. One transfer student discontinued studies.

It is shown in Table 21 that for the group entering second year of a degree program in session year 1970-1971 the number of

Table 20

Academic Achievement of Red Deer College Male Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1969-1970														
0.00-1.99	1	1	1	1										
2.00-2.49	10	10	1	2	4	3	3	4	2	1				
2.50-2.99	4	4		1	2		1	2		1	1			
3.00-3.49														
3.50-4.00														
Total	15	15	2	4	6	3	4	6	2	2	1			
3rd Year--1970-1971														
0.00-1.99	1	1	1	1										
2.00-2.49	10	10		2	6	1	3	5	1	2				
2.50-2.99	4	4	1	1	1		1	3					1	
3.00-3.49														
3.50-4.00														
Total	15	15	2	4	7	1	4	8	1	2			1	

Table 21

Academic Achievement of Red Deer College Male Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-1.99	6	6	6	2		4								
2.00-2.49	7	7	1	2	2	4	1		1			1	2	
2.50-2.99	5	5			2	1	2	3				1	1	
3.00-3.49	3	3					1	2	2	1				
3.50-4.00														
Total	21	21	7	4	4	9	4	5	3	1		2	3	

matched pairs in each cumulative grade point averag[illegible]terval was six in Group 1, seven in Group 2, five in Group 3, [illegible]e in Group 4. As a group two transfer and six native students imp[illegible]ed, 12 (57%) transfer and 10 (48%) native students maintained and four transfer and five native students decreased in academic performance. Three transfer students discontinued studies.

(c) Hypothesis Four

Table 22 shows the results of the statistical analysis of the cumulative grade point averages of male Red Deer College transfer students and their native student matches at the University of Alberta. This table shows that the 47 transfer and the 53 native students who completed the second year of a degree program in 1968-1969 produced an "F" value of 1.731. The group mean of the transfers was 5.37 and for the natives it was 5.53. These data produced a "t" value of 0.775 and 105 degrees of freedom.

The data for the 33 transfers and 39 natives who completed the third year of a degree program in 1969-1970 produced an "F" value of 1.336. The group mean of the transfers was 5.75 and for the natives it was 5.88. These data produced a "t" value of 0.361 with 70 degrees of freedom.

The data of the 49 transfer and 50 native students who completed the second year of a degree program in 1969-1970 produced an "F" value of 1.124. The group mean for the transfers was 5.59 and for the native students it was 5.84. These data produced a "t" value of 1.142 with 97 degrees of freedom.

Table 22

Hypothesis 4

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.731	No	5.37	5.53	107	0.775	No
	1969-70	3rd	1.336	Yes	5.75	5.88	70	0.361	No
	1969-70	2nd	1.124	Yes	5.59	5.84	97	1.142	No
The University of Calgary	1969-70	2nd	1.251	Yes	2.41	2.35	28	0.260	No
	1970-71	3rd	3.539	No	2.26	2.30	27	0.147	No
	1970-71	2nd	1.107	Yes	2.14	2.32	37	0.718	No

Table 22 also shows the results of the statistical analysis of the cumulative grade point averages of male Red Deer College transfer students and their native student matches at The University of Calgary. In the case of the 15 natives and 15 transfers who completed the second year of a degree program in 1969-1970 the data produced an "F" value of 1.251. The group mean for the transfers was 2.41 and for the native students it was 2.35. These data produced a "t" value of 0.260 with 28 degrees of freedom.

The data for the 14 transfer and 15 native students who completed third year of a degree program in 1970-1971 produced an "F" value of 3.539. The group mean of the transfers was 2.26 and for the native students it was 2.30. The data produced a "t" value of 0.1465 with 27 degrees of freedom.

For the 18 transfers and 21 natives who completed second year of a degree program in 1970-1971 the data produced an "F" value of 1.107. The group mean of the transfers was 2.14 and for the native students it was 2.32. The data produced a "t" value of 0.718 with 37 degrees of freedom.

5. Females

(a) University of Alberta

Tables 23 and 24 contain the data which describe the comparative academic achievement of female Red Deer College transfers and their native student matches at the University of Alberta.

In Table 23 it may be observed that for the groups entering the second year of a degree program in the session year 1968-1969 the

Table 23

Academic Achievement of Red Deer College Female Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	12	12	2	2	4	6	4	3					2	1
5.00-5.99	24	24	4	2	6	10	7	8	2	3			5	1
6.00-6.99	13	13	1		1	3	8	6	2	4			1	
7.00-7.99	3	3					1		2	3				
8.00-9.00	3	3					1		1	1	1	2		
Total	55	55	7	4	11	19	21	17	7	11	1	2	8	2
3rd Year--1969-1970														
0.00-4.99	10	11	2		3	2	3	4	1	2			1	3
5.00-5.99	19	23	1		5	5	2	10		1			11	7
6.00-6.99	12	13			4	3	3	3	2	6			3	1
7.00-7.99	3	3					1					2	2	1
8.00-9.00	3	3							1	1		2	2	
Total	47	53	3		12	10	9	17	4	10		4	19	12

Table 24

Academic Achievement of Red Deer College Female Transfer Students and Matched Native Students at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	8	8	4		1	4	1	1					2	3
5.00-5.99	15	15	1	1	8	6	1	2					5	6
6.00-6.99	13	13			4	1	6	4	1	2			2	6
7.00-7.99	3	3				1	2		1	1				1
8.00-9.00	1	1							1	1				
Total	40	40	5	1	13	12	10	7	3	4			9	16

number of matched pairs in each cumulative grade point average interval was 12 in Group 1, 24 in Group 2, 13 in Group 3, three in Group 4 and three in Group 5. If observed as a group 19 (34%) transfer and 24 (44%) native students improved, 19 (34%) transfer and 23 (42%) native students maintained and nine transfer and six native students decreased in academic achievement. Eight transfer and two native students discontinued studies.

Also observed in Table 23 for the groups entering the second year of a degree program in the session year 1969-1970 the number of matched students in each cumulative grade point average interval was 10 transfers and 11 natives in Group 1, 19 transfers and 23 natives in Group 2, 12 transfers and 13 natives in Group 3, three transfers and three natives in Group 4, three transfers and three natives in Group 5. As a group 11 (23%) transfer and 27 (15%) native students improved, 10 (21%) transfer and 10 (19%) native students maintained, seven transfer and four native students increased in academic achievement. Nineteen (41%) transfer and 12 (22%) native students discontinued studies.

Table 24 shows that for the groups entering the second year of a degree program in the session year 1969-1970 the number of matched pairs in each cumulative grade point average was eight in Group 1, 15 in Group 2, 13 in Group 3, three in Group 4, and one in Group 5. Inspected as a group four transfer and nine native students improved, 19 (47%) transfer and 11 (27%) native students maintained, and eight transfer and four native students decreased in academic achievement. Nine transfer and 16 (40%)

native students discontinued studies.

(b) The University of Calgary

Tables 25 and 26 contain the data which describe the comparative academic achievement of female Red Deer College transfers and their native student matches at The University of Calgary.

As can be observed in Table 25 for the groups entering the second year of a degree program in the session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was two in Group 1, nine in Group 2, three in Group 3, one in Group 4, and one in Group 5. As a group six transfer and seven native students improved, seven transfer and six native students maintained and three transfers and three native students decreased in academic achievement. No students discontinued studies and for this reason the cumulative grade point average interval numbers remained the same for the group entering the third year of a degree in session year 1970-1971. In the third year group 10 (62%) transfer and 10 (62%) native students improved, two transfer and four native students maintained and two natives decreased in academic achievement. Four transfer students discontinued studies.

Table 26 shows for the groups entering the second year of a degree program in the session year 1970-1971 that the number of matched pairs in each cumulative grade point average interval was five in Group 1, three in Group 2, two in Group 3, and none in Groups 4 and 5. When observed as a group six transfer and five native students improved, three transfer and five native students

Table 25

Academic Achievement of Red Deer College Female Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1969-1970														
0.00-1.99	2	2	1	2	1									
2.00-2.49	9	9	3	2	4	1	2	5		1				
2.50-2.99	3	3		1			1	1	2	1				
3.00-3.49	1	1								1	1			
3.50-4.00	1	1									1	1		
Total	16	16	4	5	5	1	3	6	2	3	2	1		
3rd Year--1970-1971														
0.00-1.99	2	2		1	1			1					1	
2.00-2.49	9	9		1	2	2	2	1	3	5			2	
2.50-2.99	3	3							1	2	1	1	1	
3.00-3.49	1	1								1	1			
3.50-4.00	1	1								1	1			
Total	16	16		2	3	2	2	2	4	9	3	1	4	

Table 26

Academic Achievement of Red Deer College Female Transfer Students and Matched Native Students at The University of Calgary in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-1.99	5	5	2	1	2	3	1	1						
2.00-2.49	3	3			1	3	2							
2.50-2.99	2	2			1			1	1	1				
3.00-3.49														
3.50-4.00														
Total	10	10	2	1	4	6	3	2	1	1				

maintained and one transfer student decreased in academic achievement.

(c) Hypothesis Five

Table 27 shows the results of the statistical analysis of the cumulative grade point averages of female Red Deer College transfer students and their native student matches at the University of Alberta.

Table 27 indicates that the data for the 47 transfer and 53 native students who completed second year of a degree program in 1968-1969 produced an "F" value of 1.383. The group mean of the transfers was 5.97 and for the native students it was 6.19. These data produced a "t" value of 1.105 with 98 degrees of freedom.

The data for the 28 transfer and 41 native students who completed third year of a degree program in 1969-1970 produced an "F" value of 1.01. The group mean of the transfers was 5.92 and it was 6.52 for the native students. These data produced a "t" value of 2.894 with 67 degrees of freedom (sig. $p < .05$).

For the 31 transfer and 24 native students who completed the second year of a degree program in 1969-1970 the data produced an "F" value of 1.194. The group mean for the transfer students was 5.86 and for the native students was 6.00. These data produced a "t" value of 0.562 with 53 degrees of freedom.

Table 27 also shows the results of the statistical analysis of the cumulative grade point averages of female Red Deer College transfer students and their native matches at The University of Calgary. Upon inspection the table shows the data for the

Table 27

Hypothesis 5

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.383	Yes	5.97	6.19	98	1.105	No
	1969-70	3rd	1.010	Yes	5.92	6.52	67	2.894	Yes
	1969-70	2nd	1.194	Yes	5.86	6.00	53	0.562	No
The University of Calgary	1969-70	2nd	1.550	Yes	2.42	2.45	30	0.142	No
	1970-71	3rd	1.132	Yes	2.86	2.82	26	0.193	No
	1970-71	2nd	2.375	Yes	2.24	2.35	18	0.433	No

16 transfer and 16 native students who completed the second year of a degree program in 1969-1970 produced an "F" value of 1.550. The group mean of the transfer students was 2.42 and for the native students it was 2.45. These data produced a "t" value of 0.142 with 30 degrees of freedom.

The data for the 12 transfer and 16 native students who completed third year of a degree program in 1970-1971 produced an "F" value of 1.132. The group mean of the transfer students was 2.86 and for the native students was 2.82. These data produced a "t" value of 0.193 with 26 degrees of freedom.

The data investigated for the 10 transfer and 10 native students who completed second year of a degree program in 1970-1971 produced an "F" value of 2.375. The group mean for the transfer students was 2.24 and for the native students was 2.35. These data produced a "t" value of 0.433 with 18 degrees of freedom.

6. Bachelor of Arts

(a) University of Alberta

In Tables 28 and 29 are contained the data which describe the comparative academic achievement of Red Deer College transfers who were seeking the degree of Bachelor of Arts and their native student matches at the University of Alberta.

Table 28 indicates that for the groups entering the third year of a degree program leading to the Bachelor of Arts degree in session year 1968-1969 the number of matched pairs in each cumulative grade point average interval was four in Group 1, four in

Table 28

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking Bachelor of Arts Degree at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	4	4		1		2	2	1					2	
5.00-5.99	4	4		2	3	1		1	1					
6.00-6.99	6	6	1		2	1	3	4		1				
7.00-7.99														
8.00-9.00	1	1									1	1		
Total	15	15	1	3	5	4	5	6	1	1	1	1	2	
3rd Year--1969-1970														
0.00-4.99	2	4		1		1	2			1				1
5.00-5.99	4	4					2	1	1				1	3
6.00-6.99	6	6			2	1	2	1		2			2	2
7.00-7.99														
8.00-9.00	1	1							1			1		
Total	13	15		1	2	2	6	2	2	3		1	3	6

Table 29

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking Bachelor of Arts Degree at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	1	1	1			1								
5.00-5.99	5	5			3	2	2	1						2
6.00-6.99	7	7	1		3	1	3	2		4				
7.00-7.99	1	1							1					1
8.00-9.00	1	1							1	1				
Total	15	15	2		6	4	5	3	2	5				3

Group 2, six in Group 3 and one in Group 5. Observed as a group, three transfer and five native students improved, seven transfer and seven native students maintained, and three transfer and three native students declined in academic achievement. Two transfer students discontinued studies.

Also observed in Table 28 for the group entering the third year of a degree program leading to the Bachelor of Arts degree in session year 1969-1970 the number of matched students in each cumulative grade point average interval was two transfers and four natives in Group 1, four transfers and four natives in Group 2, six transfers and six natives in Group 3, and one transfer and one native in Group 5. Seen as a group five transfer and five native students improved, two transfer and three native students maintained, and three transfer and one native students decreased in academic achievement. Three transfer and six native students discontinued studies.

As observed in Table 29, for the groups entering the second year of a degree program leading to the Bachelor of Arts degree in session year 1969-1970, the number of matched pairs in each cumulative grade point average interval was one in Group 1, five in Group 2, seven in Group 3, and one in Groups 4 and 5.

Observed as a group two (14%) transfer and six (40%) native students improved, eight (53%) transfer and four (27%) native students maintained, five (33%) transfer and two (13%) native students decreased in academic achievement. Three (20%) native students discontinued studies.

(b) The University of Calgary

In session year 1969-1970 three matched pairs entered the second year of a program leading to a Bachelor of Arts degree at The University of Calgary. All three pairs fell in Group 2 in the cumulative grade point average intervals. As a group one transfer and three native students improved while two transfers decreased in academic achievement. No students discontinued their studies. The same three matched pairs entered third year of a program leading to the Bachelor of Arts in session year 1970-1971. Two transfer and two native students improved while one transfer and one native student maintained academic achievement.

At The University of Calgary in session year 1970-1971 five matched pairs entered second year of a program leading to a Bachelor of Arts degree. One appeared in Group 1, two in Group 2, one in both Groups 3 and 4. Observed as a group one transfer and one native student improved, two transfer and two native students maintained, and one transfer and two native students declined in academic achievement. One transfer student discontinued studies.

(c) Hypothesis Six

Table 30 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking the degree of Bachelor of Arts and their native matches at the University of Alberta.

As seen in Table 30 the data for the 13 transfers and 15 native students who completed the second year of a program leading

Table 30

Hypothesis 6

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.685	Yes	5.92	5.92	26	0.004	No
	1969-70	3rd	2.562	Yes	6.58	6.57	17	0.038	No
	1969-70	2nd	1.628	Yes	5.79	6.37	25	1.427	No
The University of Calgary	*1969-70	2nd							
	*1970-71	3rd							
	*1970-71	2nd							

*Sample number insufficient for statistical treatment in these years.

to the Bachelor of Arts degree in 1969 produced an "F" value of 1.685. The group mean of the transfers was 5.92 and for the native students it was 5.92. These data produced a "t" value of 0.004 with 26 degrees of freedom.

The data for the 10 transfer and nine native students who completed the third year of a program leading to the Bachelor of Arts degree in 1969-1970 produced an "F" value of 2.562. The group mean for the transfers was 6.58 and for the native students it was 6.57. These data produced a "t" value of 0.038 with 17 degrees of freedom.

The data for the 15 transfer and 12 native students who completed the second year of a degree program leading to the Bachelor of Arts degree in 1969-1970 produced an "F" value of 1.628. The group mean of the transfers was 5.79 and for the native students it was 6.37. These data produced a "t" value of 1.427 with 25 degrees of freedom.

All three sets of data for the transfer students seeking a Bachelor of Arts degree and their native student matches at The University of Calgary lacked sufficient numbers to allow statistical treatment.

7. Bachelor of Education

(a) University of Alberta

Tables 31 and 32 contain the data which describe the comparative academic achievement of Red Deer College transfers who were seeking the degree of Bachelor of Education and their native student matches at the University of Alberta.

Table 31

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Education Degree at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	10	10	2	1	4	5	4	2						
5.00-5.99	21	21	3	1	7	10	7	6	2	3				2
6.00-6.99	8	8					5	3	3	5			2	1
7.00-7.99	3	3					1		2	3				
8.00-9.00	2	2					1		1	1		1		
Total	44	44	5	2	11	15	18	11	8	12		1	2	3
3rd Year--1969-1970														
0.00-4.99	10	8			3		1	1	1	2				
5.00-5.99	19	20	1		3	2	4	9		1			5	5
6.00-6.99	8	8			3		1	2	2	4			11	8
7.00-7.99	3	3							1			1	2	2
8.00-9.00	2	2								1		1	2	2
Total	42	41	21		9	2	6	12	4	8		2	22	17

Table 32

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Education Degree at the University of Alberta in 2nd Year 1968-1969

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	6	6	3			2	1						2	4
5.00-5.99	11	11	1		5	5		1					5	5
6.00-6.99	7	7			2	1	3	2					2	4
7.00-7.99	1	1					1							1
8.00-9.00														
Total	25	25	4		7	8	5	3					9	14

As seen in Table 31 for the groups entering the second year of a degree program leading to the Bachelor of Education degree in session year 1968-1969 the number of matched pairs in each cumulative grade point average interval was 1[illegible] in Group 1, 21 in Group 2, eight in Group 3, three in Group 4, and two in Group 5. As a group 20 (45%) transfer and 21 (48%) native students improved, six transfer and 18 (41%) native students maintained and six transfer and two native students decreased in academic achievement. Two transfer and three native students discontinued studies.

Also observed in Table 31, for the groups entering the third year of a degree program leading to a Bachelor of Education degree in session year 1969-1970, the number of matched students in each cumulative grade point average interval was 10 transfers and eight natives in Group 1, 19 transfers and 20 natives in Group 2, eight transfers and eight natives in Group 3, three transfers and three natives in Group 4, and two transfers and two natives in Group 5.

When inspected as a group 11 (26%) transfer and 18 (44%) native students improved, five transfer and five native students maintained, four transfer and one native students decreased in academic achievement. Twenty-two (52%) transfer and 17 (42%) native students discontinued studies.

(b) The University of Calgary

Tables 33 and 34 contain the data which describe the comparative academic achievement of Red Deer College transfers who were

Table 33

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Education Degree at The University of Calgary in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1969-1970														
0.00-1.99	1	1		1	1									
2.00-2.49	9	9	1	2	4	2	3	4	1	1				
2.50-2.99	4	4		1			2	2	2	1				
3.00-3.49	1	1								1	1			
3.50-4.00	1	1							1	1				
Total	16	16	1	4	5	2	5	6	4	4	1			
3rd Year--1970-1971														
0.00-1.99	1	1						1					1	
2.00-2.49	9	9		1	2	1	2	3	3	4			2	
2.50-2.99	4	4			1			1	1	2	1	1	1	
3.00-3.49	1	1								1	1			
3.50-4.00	1	1								1	1			
Total	16	16		1	3	1	2	5	4	8	3	1	4	

Table 34

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Education Degree at The University of Calgary in 2nd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-1.99		2.00-2.49		2.50-2.99		3.00-3.49		3.50-4.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-1.99	8	8	5	2	2	5	1	1						
2.00-2.49	2	2			1	2	1							
2.50-2.99	1	1			1			1						
3.00-3.49	1	1						1	1					
3.50-4.00														
Total	12	12	5	2	4	7	2	3	1					

seeking the degree of Bachelor of Education and their native student matches at The University of Calgary. It can be seen that in Table 33, for the group entering the second year of a degree program leading to the Bachelor of Education degree in session year 1969-1970, the number of matched pairs in each cumulative grade point average interval was one in Group 1, nine in Group 2, four in Group 3, one in Group 4, and one in Group 5. When observed as a group eight transfer and six native students improved, seven transfer and seven native students maintained, while one transfer and three native students decreased in academic achievement.

As observed in Table 33 for the groups entering the third year of a degree program leading to the Bachelor of Education in session year 1970-1971, the number of matched students in each cumulative grade point average interval was the same as indicated for this same group in the second year of the degree program in session year 1969-1970. Seen as a group, eight transfer and 11 (69%) native students improved, three transfer and four native students maintained, one transfer and one native student decreased in academic achievement. Four transfer students discontinued studies.

Table 34 shows that for the groups entering the second year of a degree program leading to the Bachelor of Education degree in session year 1970-1971, the number of matched pairs in each cumulative grade point average interval was eight in Group 1, two in Group 2, one in Group 3, one in Group 4. As a group, four transfer and six native students improved, seven transfer and six

native students maintained while one transfer student decreased in academic achievement.

(c) Hypothesis Seven

Table 35 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking the degree of Bachelor of Education and their native matches at the University of Alberta. This table shows that the data for the 42 transfer and 41 native students who completed the second year of a degree program leading to the Bachelor of Education degree in 1968-1969 produced an "F" value of 1.212. The group mean of the transfers was 6.09 and for the native students it was 6.31. These data produced a "t" value of 1.104 with 81 degrees of freedom.

The data for the 22 transfer and 27 native students who completed the third year of a degree program leading to the Bachelor of Education degree in 1969-1970 produced an "F" value of 1.483. The group mean of the transfers was 6.16 and for the native group it was 6.70. These data produced a "t" value of 2.362 with 47 degrees of freedom (sig. $p < .05$).

The data for the 16 transfer and 11 native students who completed the second year of a degree program leading to the Bachelor of Education degree in 1969-1970 produced an "F" value of 5.028. The group mean of the transfers was 5.64 and for the natives was 5.62. These data produced a "t" value of 0.115 with 25 degrees of freedom.

Table 35

Hypothesis 6

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of	"t" Value	Significance
University of Alberta	1968-69	2nd	1.212	Yes	6.09	6.31	81	1.104	No
	1969-70	3rd	1.483	Yes	6.16	6.70	47	2.362	Yes
	1969-70	2nd	5.028	No	5.64	5.62	25	0.115	No
The University of Calgary	1969-70	2nd	2.004	Yes	2.63	2.49	30	0.515	No
	1970-71	3rd	1.545	Yes	2.89	2.84	26	0.251	No
	1970-71	2nd	1.046	Yes	1.98	2.21	22	0.830	No

Table 35 also contains the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking the degree of Bachelor of Education and their native matches at The University of Calgary. Displayed on this table are the data for the 16 transfer and 11 native students who completed the second year of a program towards a Bachelor of Education degree in 1969-1970, which produced an "F" value of 2.004. The group mean for the transfers was 2.63 and for the native students it was 2.49. These data produced a "t" value of 0.515 with 30 degrees of freedom.

The same type of data for the 16 transfer and 16 native students who completed third year of a degree program towards a Bachelor of Education degree produced an "F" value of 1.545. The group mean of the transfers was 2.89 and for the natives it was 2.84. These data produced a "t" value of 0.251 with 26 degrees of freedom.

The data for the 12 transfer and 16 native students who completed second year of a degree program towards a Bachelor of Education degree produced an "F" value of 1.046. The group mean for the transfers was 1.98 and for the natives it was 2.21. These data produced a "t" value of 0.83 for 22 degrees of freedom.

8. Bachelor of Science

(a) University of Alberta

In Tables 36 and 37 are contained the data which describe the comparative academic achievement of Red Deer College transfers who were seeking the degree of Bachelor of Science and their

Table 36

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Science Degree at the University of Alberta in 2nd Year 1968-1969 and 3rd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	11	11	5	7	1	2		2					5	
5.00-5.99	11	11	2	3	3	6	1	1					5	1
6.00-6.99	8	8			4	2	2	5	1	1			1	
7.00-7.99	2	2	1					2					1	
8.00-9.00														
Total	32	32	8	10	8	10	3	10	1	1			12	1
3rd Year--1969-1970														
0.00-4.99	6	11	1	2	2	4		1					3	4
5.00-5.99	6	10	1	3	4	4	1	2						1
6.00-6.99	7	8	1		1	2	3	3		3			2	
7.00-7.99	1	2			1					1				1
8.00-9.00														
Total	20	31	3	5	8	10	4	6		4			5	6

Table 37

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Science Degree at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	10	10	6	3	1	5	1	2					2	
5.00-5.99	10	10	4	2	2	4	1	2		1			3	1
6.00-6.99	6	6		1	1	1	3	2	1				1	2
7.00-7.99	3	3					3	1		2				
8.00-9.00	3	3					1	1	2	2				
Total	32	32	10	6	4	10	9	8	3	5			6	3

native student matches at the University of Alberta.

In Table 36, for the groups entering the second year of a degree program leading to the Bachelor of Science degree in session year 1968-1969 the number of matched pairs in each cumulative grade point average interval was 11 in Group 1, 11 in Group 2, eight in Group 3, and two in Group 4. As a group, three transfers and six native students improved, 10 (31%) transfer and 18 (56%) native students maintained, while seven transfer and seven native students decreased in academic achievement. Twelve (38%) transfer and one native students discontinued studies.

Also observed in Table 36 for the group entering the third year of a degree program leading to the Bachelor of Science degree in session year 1969-1970 the number of matched students in each cumulative grade point average interval was six transfer and 11 native students in Group 1, six transfer and 10 native students in Group 2, seven transfer and eight native students in Group 3 and one transfer and two native students in Group 4. Of this group three transfer and 10 (32%) native students improved, eight transfer and 10 (32%) native students maintained, four transfer and five native students decreased in academic achievement. Five transfer and six native students discontinued studies.

It can be seen in Table 37 that for the group entering the second year of a degree program leading to the Bachelor of Science degree in session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was 10 in Group 1, 10 in Group 2, six in Group 3, three in Group 4 and three in Group 5.

As a group, four transfer and 10 (31%) native students improved, 11 (34%) transfer and 11 (34%) native students maintained, while 11 (34%) transfer and eight native students decreased in academic achievement. Six transfer and three native students discontinued studies.

(b) The University of Calgary

In session year 1969-1970 six matched pairs of students entered the second year of a program leading to the Bachelor of Science degree at The University of Calgary. One pair fell in Group 1, four in Group 2 and one in Group 3 of the cumulative grade point average intervals. Seen as a group, three transfer and two native students improved, two transfer and one native students maintained, and one transfer and three native students decreased in academic achievement.

All six matched pairs entered third year of a degree program leading to the Bachelor of Science degree in 1970-1971. Of this group, one transfer and two native students improved, four transfer and two native students maintained, and one transfer and two native students decreased in academic achievement.

In session year 1970-1971 six matched pairs entered the second year of a program leading to the Bachelor of Science degree at The University of Calgary. One matched pair appeared in both Groups 1 and 5 and two appeared in both Groups 2 and 3 of the cumulative grade point average intervals. When observed as a group two native students improved, four transfer and two native

students maintained and two transfer and two native students decreased in academic achievement.

(c) Hypothesis Eight

Table 38 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking the degree of Bachelor of Science and their native matches at the University of Alberta.

In Table 38 the data for the 20 transfer and 31 native students who completed the second year of a program leading to the Bachelor of Science degree in 1968-1969 is shown to have produced an "F" value of 1.228. The group mean of the transfers was 5.13 and for the native students was 5.31. These data produced a "t" value of 0.684 with 49 degrees of freedom.

The data for the 15 transfer and 25 native students who completed the third year of a program leading to the Bachelor of Science degree in 1969-1970 produced an "F" value of 1.655. The group mean of the transfer was 5.44 and for the native students it was 5.67. The data produced a "t" value of 0.780 with 38 degrees of freedom.

The same type of data for the 26 transfer and 29 native students who completed second year of a program leading to the Bachelor of Science degree in 1969-1970 produced an "F" value of 1.449. The group mean for the transfers was 5.44 and for the native students it was 5.81. These data produced a "t" value of 1.027 with 53 degrees of freedom.

Table 38

Hypothesis 8

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.228	Yes	5.13	5.31	49	0.684	No
	1969-70	3rd	1.655	Yes	5.44	5.67	38	0.780	No
	1969-70	2nd	1.449	Yes	5.44	5.81	53	1.027	No
The University of Calgary	*1969-70	2nd							
	*1970-71	3rd							
	*1970-71	2nd							

*Sample number insufficient for statistical treatment in these years.

All three sets of data for the transfer students seeking a Bachelor of Science degree and their native student matches at The University of Calgary lacked sufficient numbers of allow statistical treatment.

9. Bachelor of Science in Engineering

(a) University of Alberta

In session year 1968-1969 six matched pairs entered the second year of a program leading to a Bachelor of Science degree in Engineering at the University of Alberta. One pair fell in each of Group 1, Group 3, Group 4 and Group 5 and two pairs fell in Group 2 of the cumulative grade point average intervals. Seen as a group, one transfer and three native students maintained while four transfer and three native students decreased in academic achievement. One transfer student discontinued studies.

In session year 1969-1970 the number of matched students in each cumulative grade point average interval was one transfer and two native students in Group 2 and one transfer and one native student in Groups 1, 3, 4, and 5. As a group three native students maintained, three transfer and two native students decreased in academic performance. Two transfer and one native students discontinued studies.

Table 39 contains the data which describe the comparative academic achievement of Red Deer College transfers who were seeking the degree of Bachelor of Science in Engineering at the University of Alberta. As can be observed from the table, for the groups

Table 39

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking the Bachelor of Science in Engineering Degree at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	3	3	3	2		1								
5.00-5.99	2	2		2	2									
6.00-6.99	4	4			2		2	3		1				
7.00-7.99	1	1						1	1					
8.00-9.00	1	1									1	1		
Total	11	11	3	4	4	1	2	4	1	1	1	1		

entering the second year of a program leading to the Bachelor of Science in Engineering degree in session year 1969-1970, the number of matched pairs in each cumulative grade point average interval was three in Group 1, two in Group 2, four in Group 3, and one each in Groups 4 and 5.

Observed as a group, two native students improved, nine transfer and six native students maintained, while two transfer and three native students decreased in academic achievement.

(b) The University of Calgary

In session year 1969-1970 one matched pair entered the second year of a program leading to the Bachelor of Science in Engineering degree at The University of Calgary. This pair fell in Group 2 of the cumulative grade point average intervals. The transfer decreased and the native student maintained academic achievement. In session year 1970-1971 these two students entered third year of their degree program; the transfer maintained and the native student increased in academic achievement.

In session year 1970-1971 three matched pairs entered the second year of a program leading to the Bachelor of Science in Engineering at The University of Calgary. Two pairs fell in Group 2 and one in Group 3 of the cumulative grade point average intervals. When observed as a group, one transfer and one native student maintained, and one transfer and two native students decreased in academic achievement. One transfer student discontinued studies.

(c) Hypothesis Nine

Table 40 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking the degree of Bachelor of Science in Engineering and their native matches at the University of Alberta. As observed in this table the data for the 11 transfer and 11 native students who completed the second year of a degree program leading to the Bachelor of Science in Engineering degree in 1969-1970 at the University of Alberta produced an "F" value of 1.754. The group mean of the transfer was 5.79 while for the native students it was 5.61. The data produced a "t" value of 0.307 with 20 degrees of freedom.

The other two groups at the University of Alberta and all three groups at The University of Calgary lacked sufficient numbers to allow statistical analysis.

10. Bachelor of Commerce

(a) University of Alberta

In session year 1968-1969 five matched pairs entered the second year of a degree program leading to the Bachelor of Commerce degree. Two pairs fell in each of Group 1 and Group 2 and one pair fell in Group 3 of the cumulative grade point average intervals. Seen as a group, one transfer and one native student improved, two transfers maintained while one native and four native students decreased in academic achievement. One transfer student withdrew.

In session year 1969-1970 the number of matched students entering third year of a degree program were four transfers and

Table 40

Hypothesis 9

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	*1968-69	2nd							
	*1969-70	3rd							
	1969-70	2nd	1.754	Yes	5.79	5.61	20	0.307	No
The University of Calgary	*1969-70	2nd							
	*1970-71	3rd							
	*1970-71	2nd							

*Sample number insufficient for statistical treatment in these years.

five natives. Two of each fell in Group 1 and two transfer and one native students fell in Group 3 of the cumulative grade point average intervals. When observed as a group, two transfer and one native students improved, one native student maintained while one transfer and two native students decreased in academic achievement. One transfer and one native student discontinued studies.

In session year 1969-1970 three matched pairs entered the second year of a degree program leading to the Bachelor of Commerce degree. One pair fell in Group 1 and two in Group 2 of the cumulative grade point average intervals. Of the group, one transfer student improved, one transfer and one native student maintained, and one transfer student decreased in academic achievement. Two native students discontinued studies.

(b) The University of Calgary

In session year 1969-1970 four matched pairs entered the second year of a degree program leading to the Bachelor of Commerce degree. One pair fell in each of Group 1 and Group 3 and two pairs fell in Group 2 of the cumulative grade point average intervals. As a group, one transfer and one native student improved, two transfer and two native students maintained, while one transfer and one native student decreased in academic achievement. As no students discontinued studies the same number of students appeared in the third year program leading to a Bachelor of Commerce degree in session year 1970-1971.

In this group, one transfer and one native student improved, two transfer and one native students maintained, while one transfer and two native students decreased in academic achievement.

In session year 1970-1971 four matched pairs entered the second year of a degree program leading to the Bachelor of Commerce degree. One pair fell in each of Group 1 and Group 2 and two fell in Group 3 of the cumulative grade point average intervals. Of this group, two transfer and two native students improved and one transfer and two native students maintained academic achievement. One transfer student discontinued studies.

(c) Hypothesis 10

All six groups for both the University of Alberta and The University of Calgary lacked sufficient numbers to allow statistical treatment.

11. "Other" Bachelor Degrees

(a) University of Alberta

Tables 41 and 42 contain the data which describe the comparative academic achievement of Red Deer College transfers who were seeking Bachelor degrees classified in this study as "Other" and their native student matches at the University of Alberta.

Table 41 shows that for the group entering the second year of a program leading to degrees described as "Other" in this study, in session year 1968-1969, the number of matched pairs in each cumulative trade point average interval was seven in Group 1, five in Group 2, one in Group 3, and one in Group 4. As a group,

Table 41

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking "Other" Bachelor Degrees at the University of Alberta in 2nd Year 1969-1970 and 3rd Year 1970-1971

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued Studies	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
2nd Year--1968-1969														
0.00-4.99	7	7	3	2	4	4								1
5.00-5.99	5	5		1	1	1	2	1		2			2	
6.00-6.99	1	1				1	1							
7.00-7.99	1	1					1			1				
8.00-9.00														
Total	14	14	3	3	5	6	4	1		3			2	1
3rd Year--1969-1970														
0.00-4.99	7	6	3	1	2	2	2	3						
5.00-5.99	3	5	1		1	3		1		1			1	
6.00-6.99	1	1						1				1		
7.00-7.99	1	1					1							
8.00-9.00														
Total	12	13	4	1	3	5	3	5		1		1	1	

Table 42

Academic Achievement of Red Deer College Transfer Students and Matched Native Students Seeking "Other" Bachelor Degrees at the University of Alberta in 2nd Year 1969-1970

1st Year GPA Range	Number Examined		0.00-4.99		5.00-5.99		6.00-6.99		7.00-7.99		8.00-9.00		Discontinued	
	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat	Tr	Nat
0.00-4.99	1	1				1	1							
5.00-5.99	3	3		1	3	2								
6.00-6.99	3	3					1	3	1				1	
7.00-7.99	2	2				1	1		1	1				
8.00-9.00	1	1								1	1			
Total	10	10		1	3	4	3	3	2	2	1		1	

six transfer and seven native students improved, five transfer and four native students maintained, and one transfer and two native students decreased in academic achievement. Two transfer and one native students discontinued studies.

As also observed in Table 41 for the groups entering the third year of a degree program leading to degrees described as "Other" in this study in session year 1969-1970, the number of matched students in each cumulative grade point average interval was seven transfers and six natives in Group 1, three transfers and five natives in Group 2, and one transfer and one native in each of Groups 3 and 4. It can be seen that of this group four transfer and eight native students improved, four transfer and five native students maintained while two transfer but no native students decreased in academic achievement. Two transfer students discontinued studies.

As observed in Table 42 for the groups entering the second year of a program leading to degrees described as "Other" in this study in the session year 1969-1970 the number of matched pairs in each cumulative grade point average interval was one in Group 1, three in Group 2 and Group 3, two in Group 4, and one in Group 5. When observed as a group, two transfer and one native students improved, six transfer and six native students maintained while one transfer and three native students decreased in academic achievement. One transfer student discontinued studies.

(b) The University of Calgary

In session year 1969-1970 one matched pair entered the second year of a program leading to degrees described as "Other" in this study. This pair fell in Group 3 of the cumulative grade point average intervals. The transfer student decreased and the native student maintained academic achievement. In session year 1970-1971 these two students entered third year of their degree program. The transfer student discontinued studies and the native student maintained academic achievement. In session year 1970-1971 one matched pair entered the second year of a program leading to Bachelor degrees described as "Other" in this study. This pair fell in Group 2 of the cumulative grade point average intervals. The transfer student improved and the native student maintained in academic achievement.

(c) Hypothesis 11

Table 43 shows the results of the statistical analysis of the cumulative grade point averages of Red Deer College transfer students seeking a Bachelor degree described as "Other" in this study, and their native student matches at the University of Alberta. It can be seen from this table that the data for the 12 transfer and 13 native students who completed the second year of a program leading to degrees described as "Other" in this study in 1968-1969 produced an "F" value of 1.418. The group mean of the transfers was 5.23 and for the native students it was 5.88. These data produced a "t" value of 1.552 with 23 degrees of freedom.

Table 43

Hypothesis 11

University	Session Year	Year of Program	"F" Value	Homogeneity of Variance	Transfer Group Mean	Native Group Mean	Degrees of Freedom	"t" Value	Significance
University of Alberta	1968-69	2nd	1.418	Yes	5.23	5.88	23	1.552	No
	1969-70	3rd	1.143	Yes	5.11	6.09	21	2.482	Yes
	1969-70	2nd	1.035	Yes	6.63	6.26	17	0.867	No
The University of Calgary	*1969-70	2nd							
	*1970-71	3rd							
	*1970-71	2nd							

*Sample number insufficient for statistical treatment in these years.

The data for the 10 transfer and 13 native students who completed third year of a program leading to degrees described as "Other" in this study in 1970 produced an "F" value of 1.143. The group mean for the transfer students was 5.11 and for the native students it was 6.09. These data produced a "t" value of 2.482 with 21 degrees of freedom (sig. $p < .05$).

For the nine transfer and 10 native students who completed second year of a program leading to a degree described as "Other" in this study in 1970, the data produced an "F" value of 1.035. The group mean of the transfers was 6.63 and for the native students it was 6.26. These data produced a "t" value of 0.867 with 17 degrees of freedom.

The three groups at The University of Calgary lacked sufficient numbers to allow statistical analysis.

CHAPTER V

DISCUSSION AND INTERPRETATION OF FINDINGS

The object of this chapter will be to interpret and discuss the data obtained and employed in this study.

The first section deals with the characteristics of Red Deer transfer students studying at Alberta universities. The second deals with data presented pertaining to the comparative academic achievement of Red Deer transfer students and matched native students at the University of Alberta and The University of Calgary.

TRANSFER DATA

The greatest number of Red Deer College transfer students entered second year studies at the University of Alberta. This number was approximately three times that number entering The University of Calgary. The University of Lethbridge received too few transfer students to gain any definite impressions.

The percentage of transfer students under 25 years of age entering second year at the University of Alberta and The University of Calgary was consistently greater by a ratio of approximately 9:1 than the 25 years of age and over group.

The transfer groups at the University of Alberta contained larger percentages of females than males while the opposite was true at The University of Calgary.

At The University of Calgary and the University of Alberta a majority of transfers sought Bachelor of Education and Bachelor

of Science degrees.

A greater percentage of transfers at the University of Alberta discontinued studies than did so at The University of Calgary.

COMPARATIVE ACADEMIC DATA

1. Hypothesis One--Over-all Achievement

(a) University of Alberta

The descriptive data pertaining to the "over-all" academic achievement of transfers and matched native students at the University of Alberta indicated that the transfer students did not achieve as well academically as the matched native students. This apparent difference in academic achievement appeared in both second and third years of degree programs. It was, however, more noticeable in the third year group in session year 1969-1970.

The transfers had a higher rate of discontinuing studies for the group entering second year in 1968-1969 and third year in 1969-1970 than did the matched natives in the corresponding groups. The transfers entering second year in 1969-1970 had a lower rate of discontinuing studies than did the corresponding matched native student groups. The cumulative grade point average group mean of the transfer groups was lower than that of the matched native groups in all three cases inspected.

In the inspection of Hypothesis One the three "t" values achieved for the comparative groups studying at the University of Alberta were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases.

It was accepted therefore that no significant difference existed between the academic performance of Red Deer College transfers and native students at the University of Alberta studying in second or third year of a degree program.

(b) The University of Calgary

The corresponding descriptive data for similar groups attending The University of Calgary indicated that the transfer students appeared to do at least as well as matched native students in both second and third years of degree programs. The matched native students showed no students discontinuing studies while two of the three transfer groups inspected showed students discontinuing.

The group means of both transfer and matched native groups entering second year in 1969-1970 and third year 1970-1971 were almost identical, while the matched native group mean for the group entering second year in 1970-1971 was slightly higher than that of the corresponding transfer group.

In the inspection of Hypothesis One the three "t" values achieved for the comparative groups studying at The University of Calgary were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases inspected.

It was accepted therefore that no significant difference existed between the academic performance of Red Deer College transfers and native students studying at The University of Calgary in second or third years of degree programs.

2. Hypothesis Two--Under 25 Years of Age

(a) University of Alberta

The data obtained pertaining to the category of age indicated that the academic achievement of transfers under 25 years of age and matched native students at the University of Alberta closely resembled that observed in the "over-all" category. The disparity between the academic achievement of transfer and native students who entered third year in 1969-1970 became greater in this category.

The rate of discontinuing studies for both transfer and matched native student groups was the same in the category as in the "over-all" category.

The group mean of the transfer students was lower than that of the matched native students in all three cases inspected.

In the inspection of Hypothesis Two the "t" values for the groups entering second year in 1968-1969 and 1969-1970 were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in both these cases.

In the two groups examined in second year of degree program at the University of Alberta, it was accepted that no significant difference existed between the academic performance of Red Deer College transfers and native students under 25 years of age.

The "t" value for the groups entering third year in 1969-1970 was found to be significant at the .05 level of confidence. The null hypothesis was rejected in this case.

In the case of this third year group of students under 25 years of age examined at the University of Alberta it was accepted that the native students performed significantly better academically than the Red Deer College transfers.

(b) The University of Calgary

The corresponding descriptive data for similar groups attending The University of Calgary indicated nearly exactly the same characteristics as the transfer and native groups in the "over-all" category. This was due to the very small numbers falling in the "25 years and over" category.

In both descriptive and statistical analysis the findings of the "over-all" category were repeated. The transfer students achieved academically as well as the native students and the null hypothesis was accepted in all three cases inspected.

It was accepted therefore that no significant difference existed between the academic performance of Red Deer College transfers and native students under 25 years of age studying in second or third year of degree programs at The University of Calgary.

3. Hypothesis Three - 25 Years of Age and Over

(a) University of Alberta

The numbers in this category were not great, but certain tendencies could be observed.

Unlike the two previous categories, the transfers, upon inspection of the descriptive data pertaining to students "25 years of age and over," appeared to achieve academically as well as the

matched native students. The only difference in the two groups was a slightly higher rate of discontinuance of studies among the transfer students. No difference existed between the group means of the transfer and matched native groups.

In the inspection of Hypothesis Three, insufficient data were available to test the achievements of the groups entering second and third years in session year 1969-1970. The "t" value for the groups entering second year in 1968-1969 was found to be not significant at the .05 level of significance. The null hypothesis was accepted in this case. It was therefore accepted that no significant difference existed between the academic performance of Red Deer College transfers and native students 25 years of age and over studying at the University of Alberta in second year of a degree program in session year 1968-1969.

(b) The University of Calgary

The corresponding data for The University of Calgary contained very few students. Individually these students supported the findings of the categories already discussed that the transfer students achieved as well as the native students.

All three groups inspected at The University of Calgary lacked sufficient numbers to allow statistical treatment.

4. Hypothesis Four - Males

(a) University of Alberta

The descriptive data pertaining to male transfer and matched native students at the University of Alberta indicated that while the native students still appeared to achieve slightly better academically than the transfers the difference was not as noticeable as in the categories of "over-all" and "Under 25 Years of Age." The difference in academic achievement observed for the group entering third year in 1969-1970 was much less than that observed in the two categories mentioned above. This group also showed a greater ratio of discontinuing studies amongst the natives than the transfers. The group entering second year in 1968-1969 indicated a greater rate of discontinuing studies amongst the transfers than the natives, the group entering second year in 1969-1970 indicated only a slight difference in the rate discontinuing studies between the two groups.

The group means of the three transfer groups were lower than those of the corresponding native groups. In this category the difference between the transfer and matched native groups entering third year in 1969-1970 showed only a slight difference.

In the inspection of Hypothesis Four the "t" values for all three groups inspected were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases.

It was therefore accepted that no significant difference existed between the academic performance of male Red Deer College transfers and male native students at the University of Alberta

studying in second or third year of a degree program.

(b) The University of Calgary

The corresponding descriptive data at The University of Calgary supported the observations reported in preceding categories. There appeared to be no difference in the academic achievement of transfer and matched native students. No difference existed between the group means of the transfer and matched native groups.

In the inspection of Hypothesis Four the "t" values for all three groups inspected were not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases. It was therefore accepted that no significant difference existed between the academic performance of male Red Deer College transfer students and male native students at The University of Calgary in second or third year of degree programs.

5. Hypothesis Five - Female

(a) University of Alberta

The descriptive data pertaining to the academic achievement of female transfers and matched native students at the University of Alberta indicated that the transfer students did not achieve as well academically as the corresponding groups of matched native students. This was particularly evident in the group entering third year of studies in session year 1969-1970.

The rate of discontinuing studies was twice as high among the transfers than among the natives from the groups entering second year in session years 1968-1969 and 1969-1970. Almost the reverse

applied for the groups entering third year in session year 1969-1970. The group mean of the transfers was lower than that of the native students in all three cases studied.

In the inspection of Hypothesis Five the "t" values for both third year groups were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in both these cases. The "t" value for the group entering third year in session year 1969-1970 was found to be significant at the .01 level of confidence. The null hypothesis was rejected in this case. It was accepted therefore that while no significant difference in academic performance existed between female Red Deer College transfers and female native students at the University of Alberta in second year of degree programs the native students were significantly better in academic performance in third year of degree programs.

(b) The University of Calgary

The corresponding descriptive data for the groups entering The University of Calgary indicated, as observed in previously discussed categories, no difference in academic achievement between transfer and matched native students.

There existed no observable difference in the group means of the transfer or native groups.

In inspecting Hypothesis Five the "t" values for the three groups inspected were not significant at the .05 level of confidence. The null hypothesis was accepted in each of these cases. It was therefore accepted that no significant difference existed between

the academic performance of female Red Deer College transfers and female native students at The University of Calgary in second or third year of a degree program.

6. Hypothesis Six - Bachelor of Arts

(a) University of Alberta

The descriptive data pertaining to the academic achievement of transfer students seeking the Bachelor of Arts degree and matched native students indicated a trend different to that observed in similar groups entering categories discussed earlier.

The group entering second year in session year 1968-1969 and third year in session year 1969-1970 showed no marked differences in academic achievement between the transfer and matched native groups. These groups of transfer students did, however, experience a higher rate of discontinuing of studies than did the matched native groups.

The matched native group entering second year in session year 1969-1970 continued the previously observed trend of native students achieving slightly better academically than the transfer group.

The group means of the transfer and matched native groups were the same for the second year group in session year 1968-1969 and the third year group in session year 1969-1970. The group mean of the transfers was lower than that of the matched native group for the group entering second year in session year 1969-1970.

In the inspection of Hypothesis Six, the "t" values for all three groups inspected were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three

cases. It was accepted therefore that no significant difference existed between the academic performance of Red Deer College transfers and native students seeking Bachelor of Arts degrees at the University of Alberta in second or third year of degree programs.

(b) The University of Calgary

The corresponding descriptive data for transfer and matched native student groups at The University of Calgary further suggested the earlier observation that the transfer student achieve as well as the native students.

Due to insufficient numbers these groups could not be tested statistically.

7. Hypothesis Seven--Bachelor of Education

(a) University of Alberta

The descriptive data pertaining to transfer students and matched native students seeking Bachelor of Education degrees indicated that an academic drop off occurred among the transfers in third year in session year 1969-1970 for the group who entered second year in session year 1968-1969.

For the group entering second year of a degree program in 1969-1970 the transfers did appear to achieve slightly better academically than the previous second year group but like that group it did not achieve as well as the matched native student group.

The ratio of discontinuing studies was higher among native students than transfers in both second year groups studied in this category while the opposite was true for the third year group.

The group mean of the transfers was lower than that of the matched native groups in all three cases.

In the inspection of Hypothesis Seven the "t" values for both second year groups at the University of Alberta were not significant at the .05 level of confidence. The null hypothesis was accepted in both cases. The "t" value for the group entering third year in session year 1969-1970 was significant at the .05 level of confidence but not significant at the .01 level of confidence. It was therefore accepted that while no significant difference in academic performance existed between Red Deer College transfers and native students seeking a Bachelor of Education degree at the University of Alberta in second year of degree programs the native students were significantly better in academic performance in third year of degree programs.

(b) The University of Calgary

The corresponding descriptive data for groups at The University of Calgary indicated that for the group entering second year in session year 1969-1970 the transfers did academically better than the matched native students. In the third year of the degree program no difference in academic achievement was observed, while the transfers experienced a high rate of discontinuing studies.

The same data suggested that for the groups entering second year in session year 1970-1971 the matched native group achieved slightly better academically than the transfer students.

The group mean of the transfer students entering second year in 1969-1970 was slightly higher than that of the corresponding native

student group. The reverse applied to the group entering second year in session year 1970-1971. No real difference existed between the two group means for the groups entering third year in session year 1970-1971.

In inspecting Hypothesis Seven the "t" values for all three groups inspected at The University of Calgary were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases. It was accepted therefore that no significant difference existed between the academic performance of Red Deer College transfers and native students seeking Bachelor of Education degrees at The University of Calgary in second or third year of degree programs.

8. Hypothesis Eight--Bachelor of Science

(a) University of Alberta

The descriptive data pertaining to the academic achievement of transfer students and matched native students seeking the Bachelor of Science degree at the University of Alberta indicated that the transfer student did not achieve academically as well as the matched native student.

The ratio of discontinuing studies was higher among the transfers than the natives for both second year groups and was about the same for the two groups entering third year in session year 1969-1970. The group means of the three transfer groups studied were lower than those of the corresponding matched native group.

In inspecting Hypothesis Eight the "t" values for all three groups inspected at the University of Alberta were found to be not significant at the .05 level of confidence. The null hypothesis was accepted in all three cases. It was therefore accepted that no significant difference existed between the academic performance of Red Deer College transfers and native students seeking Bachelor of Science degrees at the University of Alberta in second or third year of degree programs.

(b) The University of Calgary

The corresponding descriptive data for groups entering The University of Calgary were restricted due to the very small numbers in the groups. These data did, however, indicate that for the groups entering second year in session year 1969-1970 the transfer group did slightly better academically than the matched native group. This slight difference in achievement was reversed for the groups entering second year in session year 1970-1971.

The groups entering third year in session year in 1970-1971 supported the previously observed trend of transfer students achieving the same academically as the native students.

Due to insufficient numbers the data could not be treated statistically.

9. Hypothesis Nine--Bachelor of Science in Engineering

(a) University of Alberta

The descriptive data pertaining to the academic achievement of transfer students and matched native students seeking Bachelor of

Science degrees in Engineering at the University of Alberta indicated that the transfers did not achieve academically as well as the native students.

The group mean of the transfer group entering second year in session year 1969-1970 was less than that of the corresponding matched native group.

In the testing of Hypothesis Nine, the "t" value for the above group was found to be not significant at the .05 level of confidence. The null hypothesis was accepted in this case. It was accepted that for this group no significant difference existed between the academic performance of Red Deer College transfers and native students seeking Bachelor of Science in Engineering degrees.

Insufficient data prevented further statistical testing of groups at the University of Alberta or of any of the three groups at The University of Calgary.

(b) The University of Calgary

The corresponding descriptive data for transfer students and matched native groups at The University of Calgary supported earlier observations that no difference existed between the academic achievement of transfer and matched native students.

10. Hypothesis Ten--Bachelor of Commerce

(a) University of Alberta

The descriptive data presented for transfer students and matched native students seeking the Bachelor of Commerce degree at the University of Alberta while being very small in size did indicate

a tendency for transfer students to achieve better academically than matched native students.

(b) The University of Calgary

The corresponding descriptive data for transfer students and matched native groups at The University of Calgary supported the earlier observation that transfer students achieved as well as matched native students.

Insufficient data prevented statistical testing of all the groups involved in this category at both universities.

11. Hypothesis Eleven--"Other" Bachelor Degrees

(a) University of Alberta

The descriptive data pertaining to the academic achievement of transfer students and matched native students seeking degrees classified as "other" in this study, at the University of Alberta, showed further evidence of the third year academic drop off discussed previously in the categories of "Females" and "Bachelor of Education."

For the group entering second year in session year 1969-1970 the transfer students achieved slightly better academically than the corresponding matched native group.

The group means of the transfers in second year 1969-1970 and third year 1970-1971 were lower than the corresponding native group means.

Inspecting Hypothesis Eleven the "t" values for both second year groups were found to be not significant at the .05 level of confidence. For the groups entering third year in session year

1969-1970 the "t" value was found to be significant at the .05 level of confidence but not at the .01 level of confidence. The null hypothesis was accepted in the first two cases and rejected in the second. It was therefore accepted that while no significant difference in academic performance existed between Red Deer College transfers and native students, in second year of a degree program, who were seeking degrees classified as "other" in this study, the native students were significantly better in academic performance in third year of a degree program.

(b) The University of Calgary

The corresponding descriptive data for transfer and matched native groups entering The University of Calgary, while very small, indicated that no difference existed between the academic achievement of transfer students and matched native students.

The data available at The University of Calgary in this category lacked sufficient numbers of allow statistical treatment.

It should be noted that caution was observed in the interpretation of the levels of significance found among the third year transfer group attending the University of Alberta. This caution was necessary because the likelihood of finding significance increases when multiple "t" tests are used in the same population and no adjustment occurs in the levels of significance.

SUMMARY OF FINDINGS

The results of the study led to the following findings:

General Findings

1. The University of Alberta receives approximately three times the number of Red Deer College transfer students as does The University of Calgary, and very few transfers from this College attend The University of Lethbridge.

2. Red Deer College transfer students have a higher proportional rate of discontinuing studies at the University of Alberta than at The University of Calgary.

3. The rate of discontinuing studies for Red Deer College transfer students at both the University of Alberta and The University of Calgary was slightly higher than the native student rate.

4. The majority of Red Deer College transfer students to both the University of Alberta and The University of Calgary sought Bachelor of Education or Bachelor of Science degrees.

5. The ratio of Red Deer transfer students under 25 years of age to those 25 years of age or over at both the University of Alberta and The University of Calgary was 9:1.

6. Of the students transferring from Red Deer College, a majority at the University of Alberta were females while the majority at The University of Calgary were males.

7. Red Deer College transfers to the University of Alberta achieved academically slightly below the matched native students upon examination of descriptive data. Academically no significant

difference was observed between the two groups following statistical treatment.

8. Descriptive and statistical evidence indicated that Red Deer College transfers at both the University of Alberta and The University of Calgary in the category of "over-all" achieved academically as well as matched native students.

Age

1. Red Deer College transfers who were under 25 years of age in second year at the University of Alberta achieved slightly below the matched natives as observed from descriptive presentation. Statistical evidence indicated that for these comparative groups no significant difference in academic achievement occurred. For the group entering third year in this category transfers achieved noticeably below the matched native students based on descriptive data, and significantly below them in statistical evidence.

2. Red Deer College transfers under 25 years of age in second or third year of a degree program at The University of Calgary achieved academically the same as matched native students in both years.

3. At both the University of Alberta and The University of Calgary both descriptive and statistical evidence indicated that no difference existed between the academic achievement of Red Deer College transfers 25 years of age and over and matched native students.

Sex

1. Male Red Deer College transfer students at the University of Alberta achieved academically slightly below the matched native students based on descriptive data. No significant difference was found statistically between the groups.

2. Male Red Deer College transfer students at The University of Calgary achieved academically as well as matched native students.

3. Female Red Deer College transfer students at the University of Alberta achieved academically below the matched native students in descriptive presentation. For the two groups entering second year no significant difference was found statistically between the two groups. The transfer group entering third year in session year 1969-1970 showed a drop in academic achievement by descriptive data and a significantly lower academic achievement than the matched native group in the statistical evidence.

4. Female Red Deer College transfer students at The University of Calgary achieved academically as well as matched native students.

Degrees

1. Red Deer College transfer students seeking a Bachelor of Arts degree at the University of Alberta showed no difference in academic achievement when compared with matched native students descriptively and statistically.

2. Red Deer College transfers seeking a Bachelor of Arts degree at The University of Calgary achieved academically as well as

matched native students.

3. Red Deer College transfer students at the University of Alberta seeking a Bachelor of Education degree by descriptive data did not achieve as well as matched native students. The group entering third year in session year 1969-1970 showed evidence of a drop in academic achievement and, unlike the second year transfer groups, achieved significantly below the matched native students.

4. Red Deer College transfer students seeking a Bachelor of Education degree at The University of Calgary achieved academically at least as well as matched native students.

5. Red Deer College transfer students at the University of Alberta seeking a Bachelor of Science degree did, by descriptive data, achieve slightly below the matched native students. Statistical evidence indicated that no significant difference existed between the comparative groups studied.

6. Red Deer College transfers seeking Bachelor of Science degrees at The University of Calgary achieved academically as well as matched native students.

7. Descriptive data indicated that Red Deer College transfer students seeking Bachelor of Commerce degrees at both the University of Alberta and The University of Calgary achieved academically as well as matched native students.

8. Red Deer College transfer students seeking Bachelor of Science in Engineering degrees at the University of Alberta did, according to descriptive data, achieve slightly below the matched native students. Statistical evidence indicated that the difference

was not significant.

9. Red Deer College transfer students seeking Bachelor of Science in Engineering degrees at The University of Calgary achieved as well academically as matched native students based on descriptive data.

10. Red Deer College transfer students seeking "other" Bachelor degrees at the University of Alberta did not achieve as well academically as did matched native students. Again the tendency of third-year transfer students to drop in academic achievement was observed. For the group entering third year in session year 1969-1970 the transfer group achieved significantly below the matched native group.

11. Red Deer College transfer students seeking "other" degrees at The University of Calgary achieved academically as well as matched native students studied descriptively.

The findings recorded in this chapter led to certain conclusions which, in turn, gave rise to certain recommendations for further study. These conclusions and recommendations have been noted in the succeeding chapter.

CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to report on the academic achievement of Red Deer College transfer students at Alberta universities. This was accomplished by presenting, first, a profile of transfer student characteristics and university academic achievement and, second, by comparing this academic achievement with that of native students at the same university. Such a study was deemed essential if Red Deer College were to efficiently assess the success of its very substantial transfer program.

Review of related research and literature suggested that transfer students did not achieve as well academically when compared to university native students. The results of recent studies indicated a reduction in the magnitude of this achievement difference. It was also indicated that differences may occur according to the variable of age, i.e., under 25 years of age or 25 years of age and over; and sex. The review of research also supplied the rationale for the use of first-year junior college or university cumulative grade point average as a basis of matching. It was also suggested that transfer students experience a drop in academic achievement upon transfer to a university, but some show recovery from this drop in their third year of a degree program.

This study involved Red Deer College students transferring to the University of Alberta for session years 1968-1969 and 1969-1970, to The University of Calgary for session years 1969-1970 and 1970-1971, and to The University of Lethbridge for session years 1968-1969, 1969-1970, and 1970-1971.

Data concerning transfer and native student characteristics including first, second and third year cumulative grade point averages were obtained from the Red Deer College and the registrars of the universities involved.

The transfer students were matched with native students using total populations by session year, year of program, first-year cumulative grade point average, degree sought, sex, and date of birth. Student identity was withheld for the purpose of confidentiality of student records. These data were presented descriptively with the academic achievement of transfer and matched native students distributed into five cumulative grade point average intervals. Observations were made based on these intervals regarding the number of transfer and matched native students improving, maintaining or decreasing in academic achievement as compared to first-year cumulative grade point average interval.

The data for both native and transfer groups were tested for significance of difference at the .05 level of confidence on a two-tailed test of significance. The data were previously tested for homogeneity of variance.

All data were presented and tested according to session year, and year of program with reference to the following eleven categories:

1. Over-all Achievement
2. Males
3. Females
4. Under 25 years of age
5. 25 years of age and over
6. Bachelor of Arts
7. Bachelor of Education
8. Bachelor of Science
9. Bachelor of Science in Engineering
10. Bachelor of Commerce
11. "Other" Bachelor degrees

The data were then used to ascertain the comparative academic success of Red Deer College transfer students with matched native university students and the effect of these eleven different categories on this achievement. Reference was also made to the ratio and number of students of both groups discontinuing studies in the above categories.

CONCLUSIONS

From the findings present earlier, the following conclusions were noted:

1. Red Deer College transfer students transferring to The University of Calgary achieved academically as well as students who take all their university study at that university. Variations in year of program, age, sex, and degree sought have virtually no effect upon their academic achievement.

2. At the University of Alberta Red Deer College transfer students experience an academic drop in achievement upon entry into third year of a degree program. This academic drop was most noticeable among females, students under 25 years of age, and students seeking either Bachelor of Education degrees or degrees classified as "other" in this study. Transfer students achieve academically only slightly below native students in second year degree programs at this university.

3. The rate of discontinuing studies for Red Deer College transfer students is noticeably higher at the University of Alberta than at The University of Calgary. This situation is most pronounced in the third year of degree studies.

4. Red Deer College transfer students experience more academic success upon transfer to The University of Calgary than upon transfer to the University of Alberta.

5. Red Deer College is successfully fulfilling its role as an institution designed to offer university transfer courses.

RECOMMENDATIONS FOR FURTHER STUDY

On the basis of the conclusions made in this study it is recommended that:

1. Further study be conducted regarding the academic drop of Red Deer College transfer students in the third year of degree programs at the University of Alberta.

2. Studies such as the current one be conducted on a continuing basis so that all Alberta community colleges have up-to-date

factual evidence of the success of their transfer programs and knowledge of the characteristics of their transfer students.

3. A study be made of the effect of socio-economic variables on the academic success of junior college transfer students.

4. A study be conducted to discover if the Bachelor of Education degree program at the University of Alberta is either offering a more academically demanding program, or if it is attracting students of lower academic caliber and professional ambition than other degree programs at the university.

5. Further study is required on the effect of the variable of sex upon academic performance of transfer students within different degree programs.

6. Further study be conducted into the reasons why a higher than normal number of transfer students discontinue studies during their third year program at the University of Alberta.

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